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CORRELATION OF SCIENCE STUDIES IN SECONDARY SCHOOLS.

In the discussion of this subject I wish to impose two limitations:

1. *Only the laboratory sciences are referred to.* In most secondary schools a variety of subjects is loosely aggregated under the general name "science." They differ so much among themselves in purpose and method that they should be referred to at least two widely different categories. There are those whose purpose and method are purely informational, subjects about which it is well enough that every intelligent man should be somewhat informed. Physical geography, astronomy, geology, physiology so-called, as mostly taught, all belong to this category, and are not included in the college demand for scientific training. They are necessary and exceedingly helpful subjects, but in the very nature of things cannot be handled in secondary schools other than as purely informational subjects. As such they contain no scientific training whatever, and such claim should not be made for them. In the category of fundamental laboratory sciences are included chemistry, physics, botany and zoölogy. The principles derived from these are applied in the informational subjects referred to above. So far as these four fundamental subjects are studied without the laboratory they are transferred to the informational series and have no value in scientific training. I wish at this point to take issue with the too prevalent statement that the purpose of scientific

training is to teach the methods of the laboratory. The true purpose seems to have been persistently misunderstood. Facts and methods are no more science than words and grammar are literature. Science, concerning itself with facts in their relation, resulting in a formula, cultivates the scientific temper. The student of literature, ancient or modern, is brought into the region of feeling, of what is known as "appreciation," and his ultimate purpose may be broadly called æsthetic. He reads himself into his material and decides what is best in thought. The student of science endeavors to keep himself out of his material, to eliminate the personal equation, to relate his facts so as to include nothing of himself. Personal injection on the one hand and personal elimination on the other represent the ultimate difference in the two cases, and two more complementary kinds of training could not be imagined. This may suggest the educational purpose of science training; not analysis merely, but through analysis to reach a synthesis which shall contain nothing of one's self. It is evident that personal contact with the facts is an essential of such training, and that purely informational work holds no more relation to it than do the old text-books about literary people and the titles of their works to training in literature.

2. *There is presupposed a certain amount of science training in the primary school.* This simply refers to the observation of the ordinary phenomena included under the general head of "nature study."

With these two limitations I wish very briefly to discuss the correlation of science studies in secondary schools. In the outset I would say that the proper sequence of the informational science studies which have been ruled out of this discussion has doubtless given much trouble, but they hold a certain definite relation to the laboratory sciences. Naturally, if geology be taught, it should follow the four fundamentals, or as much of them as may be presented in the course. Physiology, by which is usually meant a study of the anatomy of the human body, with a little physiology thrown in, finds its natural place

after a course in zoölogy. Astronomy certainly holds a definite relation to whatever of mathematics and physics may be taught; and so on. My own personal judgment is, that the less of such subjects in a secondary school the better; but I am willing to recognize the force of a general demand. The time is limited enough, at best, in which to do good work in the fundamentals of education, without trying to inject into our schemes of study an incoherent mass of odds and ends.

Taking up the real laboratory sciences, therefore, chemistry, physics, botany, and zoölogy, it is not at all necessary that any secondary school present all of them in its courses. It is perhaps unwise for many of the schools to attempt a laboratory equipment sufficient for all these subjects. It would usually result in such meager equipment that the real purpose of the work would be in danger of being sacrificed. Where a school can afford it all four laboratories should be represented, but they should be open to election. To compel any student to take work in all these laboratories is as much of an educational fallacy as to permit him to enter none of them.

If the scientific attitude of mind be a large purpose, aside from information, then but two laboratories are necessary, namely, a physical laboratory for chemistry or physics, and a biological laboratory for botany or zoölogy; and nothing less than a year in each of them should count. A school that can afford nothing more should attempt nothing more. If it can afford three laboratories, then, although a biologist, I should say let the third be brought about by subdividing the physical laboratory into its constituent elements, physics and chemistry, and retain but one biological laboratory, which shall be devoted to either botany or zoölogy. To my mind the correlation of subjects is simple enough. We start with the proposition that laboratory science is to be taught, and to be taught with its real purpose in view. In considering the field of scientific subjects we find but four that seem fundamental and capable of proper laboratory treatment in secondary schools. Upon examining these four we discover that they are naturally thrown into two groups, that differ from each

other in the nature of the material, the problems presented, the method of work, the certainty of conclusions. One set is the very embodiment of exactness; the other is less exact but calls for larger powers of interpretation. In the largest sense, one measures, the other observes; one deals with matter, the other with life as it manifests itself in matter. While both have much in common each has its special effect on the mind of the student. These two effects, therefore, represent to us the result of the last analysis of the educative work of the laboratory sciences. It means that but two of them are absolutely necessary, but that these two must have contact sufficient to produce a sensible result. It means that if one or two more are added, it is by way of cumulative effect rather than specific effect. This makes the minimum two years, one devoted to a physical science, and one to a biological science. The sequence of these two subjects is naturally the next point to consider. Just here my conclusions seem to be at variance with the general custom, and also with distinguished opinion, such as is expressed, for example, in the "Report of the Committee of Ten." I find it to be the usual custom to introduce the biological subject or subjects early in the course, and to defer the physical sciences to the later years. If plants and animals are simply to be studied as things to be named, a process which has been likened to chasing a woodchuck into its hole, there is nothing but the hole to show for the work; or if, what is far better, they are to be studied simply as forms, facts which are obtained by *post mortem* examination, then I grant that the biological sciences hold no relation to the physical, and can be put wherever it happens to be the most convenient. Such, however, is not the conception at present of the proper study of plants and animals. They are living things, and any contact with them which leaves out of view the processes of living is worse than the play of Hamlet with Hamlet left out. They are not merely living things with multifarious internal physical and chemical processes, but they hold definite relations to heat, light, gravity, etc., as well as the chemical compounds, in their environment. To have even an elementary appreciation of plants or animals in their life activities, one must bring to the

study at least some elementary conception of the general principles of chemistry and physics, such conceptions of both as can be obtained from a year's study of either. If there be any natural sequence, therefore, between the physical and biological sciences, it is certainly one that places the study of matter and its laws first, and afterwards the study of life as it manifests itself in matter. I should certainly place the biological subjects late in the course, provided suitable primary work has been done. If this has not been done, then the biology of the secondary school begins upon a plane that I have not taken into consideration.

In case both chemistry and physics are taught, I take it that the much discussed question of their sequence has been settled as a matter of convenience rather than of logic. Logically physics should precede chemistry; but practically it demands so much mathematics that the reverse sequence is a common one. I do not regard this, however, as a matter of large importance when compared with the sequence of the biological and physical sciences. The same kind of discussion might be taken up concerning botany and zoölogy in case both are to be taught, without any such logic in the situation, it is true, but fully as unessential.

My conception of a well-equipped secondary school in which the sciences are presented in a strictly coherent and purposeful way is one in which the four laboratories are represented, each equipped for two years of work; in which each student is required to take at least two years of science, one of which must be a physical, the other a biological science; in which a student in any laboratory can have the opportunity of a second year in the same laboratory; in which physics shall be placed at the beginning of the course, and the other three introduced afterwards either in sequence or two of them simultaneosly. Such are merely general principles, which would need adaptation to all sorts of conditions. No inflexible scheme is feasible, but teachers are supposed to be able to adapt general principles to any set of conditions. The only thing in the whole situation that cannot be adapted is the poorly equipped teacher.

J. M. COULTER

LAKE FOREST UNIVERSITY

MODERN METHODS IN HIGH SCHOOL GEOMETRY.

"It is a remarkable fact in the history of science," says Playfair," that the oldest book of elementary geometry is still considered the best, and that the writings of Euclid, at the distance of 2000 years, continue to form the most approved introduction to the mathematical sciences." It is indeed unique, for where else in all the realm of science or philosophy can we find in use as the standard today a book uncopyrighted for twenty centuries? In the entrance examination for Oxford and Cambridge today, not only is Euclid the standard, but no demonstration is accepted that violates the Euclidian sequence. If on the continent and in America our worship has not been so exact, it is still true that no fundamental nor even extensive departure from the old Greek geometer has received any general sanction, nor has it even been attempted in the high schools until within two or three years. It is too early to predict how great the departure may become, if indeed Euclid is at any time to be displaced except in minor particulars. Indeed we may safely say that there are no present indications that the Riemannian—elliptical, positive curvature-plane space nor the Lobatchevskian—hyperbolic, negative curvature-plane space will ever displace our Euclidian—parabolic, zero curvature-plane space, even though it may appear that the plane of Euclid is not the plane of experience in the natural world, and that his 12″ axiom is not so self-evident, and perhaps not true after all.[1]

[1] Many attempts were made to demonstrate Euclid's parallel axiom. At length the Gordian knot was untied by cutting it, and in 1829 Lobatchevski, a Russian, published the proposition that *more* than one parallel to a given line can be drawn through a point without, and that the sum of two interior angles on the same side of a transversal which cuts two parallels is *more* than two right angles. Thence sprang an entirely new and yet logical geometry, in which the plane has a negative curvature. In a similar manner, later, Riemann proposed that the sum of the above mentioned angles was *less* than two right angles, thus laying foundation for a third geometry, on the basis of the positive curvature plane. It is now asserted that this latter is the plane of our experience.

And yet the prodigious mathematical activity of the last hundred years, exceeding in amount of production all previous effort from the beginning of the science, is evidence that the stagnation of geometrical teaching is to give way to activity of some sort. So eminent an authority as Professor Sylvester says: "I should rejoice to see mathematics taught with life and animation; short roads preferred to long; Euclid honorably shelved or buried 'deeper than ever plummet sounded' out of schoolboy's reach; projection, correlation, motion, introduced as aids to geometry; the mind of the student awakened by early initiation into ruling ideas of polarity, continuity, infinity, and ideas of the imaginary and inconceivable. It is this living interest in the subject which is so wanting in the traditional and mediæval modes of teaching."

Ball, the historian of mathematics, complains that Euclid's definitions and axioms are not all self-evident, that he fails to show why proofs are presented in the form they are — his demonstrations are synthetically presented, with no clue to the analysis by which they were reached — that he makes no attempt to generalize, is verbose and imperfect in classification. Another complaint is that pupils get no available knowledge of the logical processes they have used, as the logical processes are not classified nor studied, *e. g.*, how many pupils gain an idea that there are only a few methods of demonstration, some one of which is used in each proposition because that particular method best meets the needs of that proposition, and how many clearly see why one method and not another is best adapted? On the other hand, to the pupil's mind, is not the process of the proof of each proposition an isolated paragraph, offering no clue to the methods to be used in succeeding cases? Dr. Hirst, President of the British Association for the Advancement of Geometrical Teaching, said twenty years ago that we were no longer warned not to touch the edition of Euclid to which for more than a century we had paid literary homage.

On the whole, the tendency seems to be to acknowledge Euclid's "unassailable perfection," but to conclude that "in the

crowded life of today the time devoted to him can ill be spared." While the mathematical chair of one of our colleges cries: "Stick to the Euclidian method!" the head of the department in a prominent state university answers: "Rupture with the traditional Euclidian methods, align with the march of modern thought!"

In this country we have not been so blindly devoted to Euclid in his original purity, as have the schools of England. Indeed many attempts have been made to revise the order and treatment of Euclid after the manner of Legendre or Chauvenet, or in an independent attempt to reach a logical development, as was first done in the West, I think, by Professor Olney. Often these attempts have led to error, as in the conceptions of direction, distance and proportion, but out of it all we may look for improvement of a valuable kind. If we were to name the dozen most familiar texts in use today, it would be difficult to find differentiation among them sufficient to justify the existence of more than three, at most, on other grounds than that the various publishers might have a book to sell. Signs are not wanting that in variety at least we shall soon have an abundance. Between the rigid Euclidian books of the past and the extreme non-Euclidian of the present and future, we shall find a text containing a happy union of what we need of the old and modern geometry.

The term "Modern Geometry" is today used in so many senses that we shall do well to understand what it means in this paper, as applied to high school mathematics. It is more often used synonymously with synthetic geometry, but no one, I believe, urges that synthetic geometry should become the geometry of the high school though it may modify high school geometry by the introduction of many of its broader conceptions. The distinction between the old and the modern is mainly that in Euclid each proposition stands by itself, general laws are not traced; in modern geometry propositions that are merely different phases of one principle are grouped, and general conclusions reached, *e. g.*, the Pythagorean proposition is but that phase of the case

of the general triangle, in which the projection of one side on another becomes zero. Continuity, reciprocation, homology, organically connect principles which in Euclid are isolated, unrelated. Certainly if the wonderfully interesting and productive ideas of modern geometry can be speedily put in available form for high school use, the event will be hailed with delight by those who believe that "the world do move," in geometrical, as in all other knowledge. But we can hardly accept a book which soberly tells the high school boy of fifteen that "he has been led to rely more and more on his own resources of knowledge and ratiocination in the conduct of the foregoing investigations. He has now possessed himself of a large fund of concepts, and must test his ability to wield, combine and manipulate them in forging orginal proofs, always, bearing in mind the fundamental logical principle that every example of a general concept has all the marks of a general concept," and which assigns as Th. 135: "The transverse joins of two pairs of anti-homologous points of two circles meet on the power-axis of the circles." And yet the work above quoted, and others recently printed, or in print, are so full of the warmth of quickening life that we may confidently expect that a book at once progressive and usable must soon appear.

If such is the activity in the work of transformation in the text-book, we may look for a cause which will work out its effect as well in the aims and methods of *teaching* the subject. And here we are not disappointed. For methods that are various, and chaotic, and sometimes idiotic, commend us to some of the geometry teaching of the past decade. The marvelous stagnation of past centuries has been succeeded by an exhibition of well meant acrobatics, which has been manifested as well in many other phases of recent pedagogical development, and which is always an attendant of change from the excellent past to the better future. A few original exercises, and much demonstration in the text; a little formal demonstration in the text, and much original work; no demonstration in the text; and no text at all, have been some evidences of this fermentation in the direction of the text-book.

A clear understanding of the changes that must come in the work of the high school takes us back to the elementary schools. The committee of ten urged that the child's geometrical training should begin as early as possible; in the kindergarten, if he attends one; if not, in the primary. It is claimed that geometry, and not arithmetic, is the study which possesses inherent natural qualities. It is easier for the child by experiment with models and drawings to conclude that the sum of the angles of the triangle is two right angles than to grasp the rules of fractions, *e. g.*, the rule for the multiplication and division of fractions. During all these earlier years the work is to be done without a text, and without assigned lessons, making free use of problems. At about ten or eleven years systematic instruction in concrete geometry is to begin, with constant experimental work in examples taken from the pupils environments at home, at school, and in field excursions. A very suggestive article in this line appeared in Volume XXXVIII. of the *Popular Science Monthly* and has been reprinted in some educational journals. All this work leads up to some demonstrative geometry, taken very slowly and in small doses, in the 7th and 8th grades. It is easy to see how entirely different is the aspect of high school geometry if this should be the basis of future geometric teaching. Instead of pupils to whom geometry is an unknown country, who think of an angle as two lines, and a triangle as three, we shall have to deal with those who have been on terms of intimate acquaintaince with the concepts and many of the principles of geometry.

Another important modification of methods in geometrical teaching results from the changed view of the psychology of the subject. The old view was that it was for the culture of the logical powers through the memory. The "absolutely perfect model" furnished by Euclid was to be learned. Today the tendency is to forbid the use of memory even where it is needed. The advantage of memorizing theorems, definitions and principles is very great. A habit of memorizing demonstrations is positively vicious, and must be thwarted at any cost. The

Maine Pedagogical Society has aptly stated the aim of geometry to be to cultivate, (1) attention, (2) orderly thought, (3) concise expression, (4) power of reasoning, (5) a habit of questioning. To all of these the exercise of the memory is incidental and subsidiary, though important, if exercised in the right place. The whole result must be that the pupil shall assimilate, not memorize.

The effect of this changed view of the study of geometry has been very great. Universally the exercises for demonstration by the pupils, which the British Association for the Improvement of Geometrical Teaching first effectively urged twenty years ago, have been adopted as an important part of the work. Spencer's *Inventional Geometry*, which appeared in 1876, lead the way to a practical familiarity with geometrical constructions, which that association urged should precede the theoretical study. It was to be expected that extremists would conclude that, if a little originality were a good thing, more would be better, and hence it comes to pass that recently a book has been issued containing no proofs, but only suggestions, *e. g.*, "Let ABC represent a triangle in which side AB is greater than AC.

To prove that angle C is greater than angle B:

Sug. 1. Angle C equals angle B, or is less than B, or is greater than B.

Sug. 2. If angle C equals angle B, how would AB and AC compare? Why? Does this agree with the hypotenuse? Is it possible for angle C to be equal to angle B?

Sug. 3. If the angle C is less than angle B, how would AB and AC compare? Why does this agree with the hypotenuse? Is it possible for angle C to be less than angle B?

Sug. 4. From results reached in suggestions 1, 2, 3, what must be the relation between angles C and B? etc., to the end of the chapter, and the book.

Other reformers, more thorough still, have issued texts containing not a demonstration nor definition from cover to cover. The author of one of these truly remarks that this book is not for the teacher who is lazy or lacks a thorough understanding of the subject. No one can question that, but not all will agree to his inference that others will find in it the ideal text by which to

reach the aims of geometry teaching. Those are not wanting, however, who, seeking not for themselves the glory of authorship proclaim the text, even though it be but a syllabus, an outlaw forever banished from the protection of the schoolroom, changing Plato's inscription, "Let none ignorant of geometry enter my door" to "Let none bearing a text-book enter here." At least one author prepares for all comers by making a text on the old models with numerous exercises, and issuing separately a syllabus of all the propositions.

All these experiments are to the same purpose, viz., to throw the pupil on his own resources, to cultivate his creative power and stimulate invention. It is certain that no subject of the curriculum offers such opportunities in these directions as does geometry, and a proper correlating of these aims with other legitimate ends must be the solution of the problem of methods, both in preparation of text and conduct of recitation. In my class, when I studied geometry, was a young lady of fine mind who recited the usual lesson with a fluency and inerrancy that delighted the teacher, put to shame the idle student, and aroused the envy of all. But let the then unusual lesson of original work be called, and she blushed and was silent. I cannot remember that she ever succeeded in doing an original exercise. The day has certainly come when such work is not received with favor, if indeed it is to be accepted. The conference report to the Committee of Ten but voiced the feeling of every up-to-date teacher of geometry when it said, "As soon as the student has acquired the art of vigorous demonstration, his work should cease to be merely receptive. He should begin to devise constructions and demonstrations for himself. Geometry cannot be mastered by reading the demonstrations of the text-book. By wise instruction after this method the inferior student can at least be freed from slavish dependence on his text-book, while the able student will gain power large enough to construct his own geometry." And yet with all the acknowledged merits of this innovation, I record my conviction that the virtue of added interest and power secured by this originality has been, in no small degree, offset by the

evils of departing from the rigor of the demonstrations of twenty years ago, when our books had no undemonstrated exercises. Why should this be so, and how is it to be checked?

I think *why* is clear. To successfully answer the *how* is to solve the problem of the future of geometry teaching. As to the why, we know that the laboratory of the inventor is not usually an orderly place. Strewed all about are broken pieces, and other evidences of the thousand unsuccessful experiments that were necessary before the one successful one was found. The same condition must befall the geometry class that is attempting inventive work, relying, as many teachers have insisted they must, entirely on their own inner consciousness. It required men of a good amount of ability, and not a few of them, to discover the geometrical propositions we know today, and they spent some thousands of years doing it. Our ancestors discovered many things that we need not require each of our children to evolve out of inner consciousness. We build on the past, and need not compel each pupil to follow in all details the development of the race. Some of the finest *impromptu* efforts have been previously prepared; and the inventional work of our geometry classes needs not only careful guidance but systematic, pre-original preparation, if their so-called original work is to succeed. The average youth is incapable of making his own geometry. In another direction, too, failure has been invited, in that the exercises in the book are often poorly graded, usually too difficult, and always in large part unrelated with the body of the work.

We thought we were ready to cry "Eureka!" when we hit upon the plan of giving the pupils undemonstrated exercises and inventive geometry. But we had yet to find out that pupils needed to *know how* to use them. And all our text books and many of our teachers forgot to tell the pupils how, if indeed some even knew there was a how of attacking the work except by approaching each problem as an independent puzzle. Hence this puzzle once solved was no help to the solution of the next, except for the intellectual cunning thereby acquired. Even in the study of the ordinary theorems and problems how often pupils ask, "But how

did any one ever think of such a proof?" The synthetic proofs of the text give no clue to the analysis by which the steps were involved. And then between the proofs given and the proofs to be invented the text has a great gulf fixed, with no suggestion of a bridge or ferry. To sum up in a word, there are just a few well defined methods of attack for all geometric propositions. These the class should thoroughly master and frequently, understandingly and rigidly apply, under the teacher's supervision. Enough room then remains for unlimited originality, and a degree of rationality. Not only use original exercises, not only make pupils think, but teach them how to use them, how to think.

I mention one other method—that of the use of models. In many schools an extensive use of manufactured models is constantly made; in more pasteboard models of home manufacture are provided; in some the opposite extreme is followed, and not models only but blackboard diagrams also are banished from the recitation, the class forming mental images of the figure and projecting them perhaps on the floor, or possibly better yet, from the point of view of united attention, on the teacher. My own idea is that both these extremes have in them somewhat of good, and, if too persistently used, much of evil. Certainly, if geometry is to find its way to the lower grades, the use of models is helpful and essential, though most of them may well or better be of home manufacture, worked out together with the solution of the principle. In the high school they have their place, and under present conditions no collection is likely to be too fine or too extensive.

I think I can sum up the few modern methods I have room to mention in this paper by an outline suggestion of the construction of the text I would use. I would not do without a text; I would not use a syllabus merely. Few men have shown ability to write a successful text, and the average teacher has neither the time nor the adaptability to furnish proofs by directing the class in their independent work. If this be true of the teacher what shall we say of pupils writing their own text? Pupils need constant familiarity with the most lucid, logical, elegant and rigid proofs the best text can provide. So much of the *old* should be

retained. Of the *new* have the inventive and modern. Let the book direct the pupil as he strikes out on the unknown, unproved waters of inventive work. Let the book treat of methods of attack and carefully illustrate their use. In other words let the exercises be not added leaves of the text, but an organic part of the whole, with the lines of connection clearly and constantly evident. Give us not a stream of oil and water that will not mix, nor of milk and water that clouds the whole, but a mineral spring in which the parts are in compound. Then put in enough modern geometry to widen the pupil's horizon, as Euclid would have done had these modern developments been known in his day. Let the laws of continuity, of converse, of reciprocals and homology, show the relations and interrelations of principles that must else seem isolated and confusing. Let the pupil perhaps glance into the conceptions of the elliptical and hyperbolic geometries just enough to help him realize that there are undiscovered worlds of startling interest the knowledge of the existence of which may greatly stimulate his attention to the matters presented in the Euclidian world he had supposed he lived in. By experience I know this is a force that can be used to advantage.

I might use the word *method* in the narrow sense, and give *devices* successfully used by various teachers. But orthodoxy is my doxy and heterodoxy is your doxy, and a method which you may use very successfully and pronounce very orthodox pedagogy is not unlikely to develop very heterodox pedagogy in my hands. Leave every man to his own *devices* if only his knowledge of the subject and its pedagogy and history be broad. Then, if he be a teacher, he will succeed.

Whatever the devices used I believe that through all the mistakes made, and to be made, the outcome will be modern methods in geometry that shall lead the pupil to assimilate, not to absorb, to develop, not like Topsy, "jest to grow," and that shall compel the teacher to teach not a method, not a text-book, but the *subject* in all its beauty and power and with all the marvelously good of the old and the stimulus of the broader, ever-growing new.

E. C. GODDARD
UNIVERSITY OF MICHIGAN

THE DIFFICULTIES AND DISCOURAGEMENTS IN THE EARLY STAGES OF THE LATIN COURSE.

THE large percentage of time allotted to the study of Latin in our leading secondary schools is quite significant. It seems to indicate a general recognition of the close relationship that manifestly exists between success or failure in the study of Latin and success or failure in the attempt to acquire a liberal or semi-liberal education.

The Roxbury Latin School gives 23.1 per cent. of its recitation hours to the study of Latin; the Boston Latin School, 22.5 per cent.; the Cambridge Latin School, 30⅓ per cent.; the Phillips Exeter Academy, 29.7 per cent.; and the Phillips Andover Academy, 31.9 per cent.

If, as these data seem to show, Latin is a fundamental in secondary schools, it is clearly the duty of those vested with the responsibility for their management, to see to it that this study is begun and prosecuted to the finish under favorable conditions.

That these favorable conditions exist in the early stages of the study, especially in those schools that admit pupils at the age of fourteen, or younger, and attempt to give them a satisfactory preparation for the best colleges in the country in four years, is seriously questioned. It is quite a common custom in such schools, I believe, to drive the classes through the beginner's Latin book at an unreasonably rapid pace, and to plunge them into Cæsar in the latter part of the first year.

To master and fix firmly in the memory the five declensions, the four conjugations, and a half-dozen irregular verbs, to gain a practical familiarity with the common laws of syntax—not to mention the uses of the subjunctive, the sequence of tenses and the perplexities of conditional sentences and indirect discourse—and to acquire a working vocabulary of seven hundred or one thousand words in the short space of thirty-two weeks is no mean achievement; more especially when it is remembered that

the kind of school work commonly done by pupils before entering upon the study of Latin, is very unlike that which they *then* are called upon to do, and furnishes very little direct preparation for it.

The discouraging perplexities to be met with in Cæsar are even greater than those presented in the beginner's book. Many of the greatest difficulties that are found in the structure of the Latin language, may confront the learner upon a single page of Cæsar's Gallic War. No longer can the student seek for guidance in "model sentences" and "illustrative examples." He must find for himself the solution of the puzzle before him. He is an inexperienced investigator in a strange laboratory where the observations must be made with the utmost fidelity and accuracy. The sentences are long, difficult and uninteresting. They must be analyzed patiently and carefully. Groups of related facts must be collected and noted day after day. When the evidence is abundant and convincing, the student completes the inductive process, and thereby comes into close contact with the structure of the language. In this way he formulates on his own account the rules of syntax which he may use with confidence in all his subsequent study of the Latin language. When the law and the facts upon which the law is based are clearly discerned, then, if need be, the conclusions reached through observation, comparison and inference may be reëxamined in the light of the rules laid down in some standard grammar. Until this original work is done by the pupil, the memorizing of syntactic rules may wisely be discouraged.

In some such way as this, I take it, the successful student nowadays must make his way into the mysteries of the structure of the Latin language. This, I submit, is severe work, and the burden of it unhappily falls upon the student in his second year.

My contention is that an attempt to deal with Cæsar in this aggressive and inductive fashion, requires a greater degree of intellectual strength and maturity than can be found in the ordinary pupil whose study of Latin has been limited to a beginner's book.

Then too, it should be remembered that this severe strain—

I know of nothing more severe in the four year's curriculum—is put upon our children just as they are entering upon the first years of their adolescence. Youths of this age are passing through a critical stage of their development and are growing in stature with great rapidity. They have little power of attention, the judgment is immature, and habit of conscious reasoning from groups of facts to general laws is an end not yet attained. To be sure it is nature's appointed time to begin in systematic manner this kind of training; but the amount and severity of it in the early part of the Latin course are greater, as it seems to me, than can be defended in any sound system of pedagogics.

For many a bright girl and boy Cæsar is a trackless forest, an inextricable labyrinth, a dry and dreary desert. A thoughtful girl in my present senior class, when asked to locate and describe the greatest difficulties that she had met in her study of Latin said: "My difficulties were poor preparation in the first year's work, lack of power of concentration, and the dryness of the Gallic Wars. The whole year's work in Cæsar was drudgery to me." Another equally bright pupil said: "I found the most trouble in beginning the study of Cæsar. The chief difficulties arose from the entire newness and what seemed to me the irregularities. I found myself troubled by indirect discourse and other forms of construction which I had learned to understand and write, but which I was not prepared to meet." Many other testimonies of similar import were given by other members of the class. How many are hopelessly lost in this maze of perplexity year by year, we may never know; but to doubt that the number is large would be to discredit a long series of observations made under favorable conditions.

It should be noted here that I am not speaking of the older and more mature students in the academies, but of the younger pupils that are found in the public high schools. To cite a fact for illustration, of the 135 members in the present senior class of the Newton High School, sixty-nine are pursuing the classical course. Twenty-two of the sixty-nine will take their final examination at Cambridge next June,[1] and their average age at the

[1] This refers to June 1895.

date of their admission to college will be seventeen years and seven months. The youngest of the twenty-two will be only fourteen years and nine months old on the 14th day of next June. As usual the candidates for college average somewhat younger than the other members of the class.

In such well managed institutions as the Roxbury Latin School and the Boston Latin School where boys are admitted at an early age and held for a term of five or six years, and where the instruction is exceptionally skillful, it is easy to believe that all the fit survive; but under a four years' curriculum, where a straight course to the doors of the college must be taken, it must needs be that not a few who perchance are a little slow in mind or weak in body, are needlessly sacrificed to an ill-considered arrangement or selection of the Latin authors prescribed for admission to college. It is not my purpose in this brief paper to offer any remedy, or to propose any substitute for a part or all of the required four books of the Gallic War. My only object is to offer testimony in confirmation of some reflections cast upon the Commentaries of Cæsar at New Haven in October, 1893, by Mr. Collar, Mr. Comstock and President Seelye.

In the search for evidence bearing upon this subject, I have carefully canvassed the records of all who began the study of Latin in the Newton High School during the years '88, '89, '90, 91, '92.

		I.	II.	III.	IV.	V.	
Class entered.	Whole number beginning Latin.	Dropped Latin during last half of first year.	Failed in Latin and left school at end of first year.	Entered classical course, dropped Latin at end of first year, changed to general course.	Entered general course and dropped Latin at end of first year.	Failed in Latin during second year.	Totals.
1888	83	0	4	4	8	10	26
1889	107	3	10	14	7	13	47
1890	94	5	8	5	13	8	39
1891	153	5	16	5	8	23	57
1892	115	3	13	4	13	10	43
Totals,	552	16	51	32	49	64	212

212 ÷ 552=38.4 per cent.

In determining "the whole number" two classes have been excluded: (1) those who abandoned the study before the middle of the first year; and (2) those who, although they had been successful in the study of Latin, left the school at the end of the first year. The former, it was thought, did not give the subject a fair trial; the latter might, or might not have failed, if they had remained in the school a second year. The whole number concerned in the experiment was 552.

As may be seen by consulting the table, there were several kinds and degrees of failures. The groups I., II. and V., need no explanation. Group III. represents pupils who entered upon a college preparatory course, but abandoned it when they came to see how much effort the acquisition of the Latin language required. It should be remarked at this point that our classes usually finish the beginner's book about the 1st of May and read a part of the second book of the Gallic War before the end of the first year. In other words, all included in the third and fourth groups, were called upon to confront some of the difficulties of Cæsar already referred to. The members of the fourth group began in the general course, and are regarded as failures in Latin, although some of them maintained a creditable standing in their classes during the year. A part of them doubtless might have been successful in the second year if they had been more ambitious, or if the study of the first Latin author had been made less difficult and more interesting. In view, however, of the results attained, it seemed best to rate them as failures, on the theory that it is unprofitable to pursue the study of Latin for one year only.

To summarize, out of 552 who can fairly be said to have participated in this struggle for a mastery over this most useful, ancient, classical language, 212 (38.4) per cent. failed.

That many, under any circumstances, must fail in the study of Latin, I understand full well; but, in the light of all I know about the 212 boys and girls who were vanquished in this contest, I cannot doubt that a percentage of 38.4 per cent. is quite too large.

It is believed that a remedy for these evils in the city of Newton has been found by introducing the study of Latin as an elective into the two upper grades of the grammar schools. In this way the difficulties of the language can be presented to the pupil more gradually, and more time can be devoted to reading easy Latin before beginning Cæsar.

EDWARD J. GOODWIN

HIGH SCHOOL, Newton, Mass.

RATIO OF MEN TO WOMEN IN THE HIGH SCHOOLS OF THE UNITED STATES

The following circular was sent by Superintendent Nightingale of the Chicago High Schools to the cities named below:

Chicago, Nov. 6, 1895.

TO THE PRINCIPAL:

Will you please give me the ratio of men and women among the teachers in your *High Schools?* Also the difference in *salaries* based purposely, or incidentally, or in accordance with custom, upon sex.

Number of men in your high schools?
Number of women in your high schools?
Salaries paid the men, per annum?
Salaries paid the women, per annum?
Why do you employ more women than men?
Why do you pay men more than women?

If you will please give me this information, with any other suggestions you will find it agreeable to make, I shall be exceedingly grateful, and shall be glad to reciprocate.

Truly yours,

A. F. NIGHTINGALE,
Sup't High Schools.

The following is the report by cities of salaries paid:

RATIO OF MEN AND WOMEN AMONG THE TEACHERS OF HIGH SCHOOLS IN THE FOLLOWING TOWNS AND CITIES, WITH SALARIES PAID.

TOWN OR CITY	Number of Men	Number of Women	SALARY OR AVERAGE SALARY PAID MEN	SALARY OR AVERAGE SALARY PAID WOMEN
Grand Rapids.....	11	24	$ 827.27, In. Prin.	$ 770.83 average
Evanston, Ill.....	3	9	2,800, 1,150, 1,250	400 to 1,150
Milwaukee, Wis.....	9	11	1,300 to 1,700	700 to 900
Springfield, Ill.....	4	5	900, 1,450, Pr. 1,670	800
Madison, Wis.....	1	12	1,800	555 to 700
Cincinnati.....	21	37	37,800, average 1,800	38,500, average 1,040
Duluth, Minn.....	9	7	2,500, 1,600, 800	650 to 1,000
Denver, Col.....	18	16	1,250	975
Topeka, Kan.....	3	9	1,200, 1,000, 720	855, 810, 720, 675

Town or City	Number of Men	Number of Women	Salary or Average Salary Paid Men	Salary or Average Salary Paid Women
Hartford, Conn.	16	15	Salary list private	Salary list private
Harrisburg, Pa	9	12	About 800	About 690
Somerville, Mass.	10	19	2,400 to 1,000	1,200 to 800
Malden, Mass.	2	9	2,300 to 1,800	800, 700
Albany, N. Y.	11	15	1,000 to 2,500	600 to 800
Columbus, O.	18	31	25,000, av. 1,389	32,900, average 1,061
New Haven, Conn.	8	17	11,600, av. 1,450	15,900, average 932
Fall River, Mass.	10	10	400 to 3,000	800 to 1,200
Pittsburg, Pa.	16	24	900 to 1,700	600 to 1,700
Rochester, N. Y.	5	22	1,350 to 2,300	600 to 900
Providence, R. I.	18	28	800 to 2,500	600 to 2000
Rockford, Ill.	3	9	750 to 900	500 to 900
Kansas City, Mo.	23	17	1,180 average	1,000 average
Washington, D. C.	32	59	500 to 1,500	400 to 1500
Portland, Maine	5	12	800 to 1,250	600 after first year.
Lynn, Mass.	11	16	1,400 average	900
Ann Arbor, Mich.	6	8	1,417 average	615 average
Concord, N. H.	1	8	2,250	600 to 825
Philadelphia, Pa.	70	120	1,000 to 4,000	700 to 1,600
Omaha High School	9	23	1,405 In. Pr., 1,179 av.	921 average
Salem, Mass.	5	7	900 to 2,200	700 to 1100
Worcester, Mass.	4	18	1,200, 2,000, 3,000	500 to 1,050
Springfield, Mass.	6	16	1,000 to 3,500	850 to 1,500
Detroit, Mich.	12	35	700 to 1,000	700 to 1,000
Girls' Latin School, Boston, Mass.	3	31	3,780, 2,880 (2)	[1,380 1,800, (1) 1620, (2) 756,
Joliet, Ill.	4	6	1,100	666.66
Bangor, Me.	3	7	1,500	750 down to $450
Portland, Oregon	8	10	1,100	1,100
Seattle, Wash.	6	7	90 per month	90 per month
Girls' High School, San Francisco.	3	15	3,000 P., 2,100 V.-P. 1,560 drawing 1,200 to 1,680	1,860, H. A. 1,680
Lowell High School, San Francisco.	22	25	3,000 Pr., 1,980 V.-Pr.	1,200 to 1,680
Lawrence, Kansas	3	7	50 to 55 per month	50 to 70 per month
Quincy, Mass.	2	6	2,000, 750	500 to 800
Indianapolis, Ind.	13	11	900 to 1500	700 to 1,200
Tacoma	4	7	855	855
Dubuque, Ia.	3	6	600 to 1,650	700
La Porte, Ind.	6	1	1,038, Pr. 1,200	665
Worcester, Mass.	10	13	800 to 3,000	600 to 1,000
Buffalo, N. Y.	12	47	1,600	500 to 1300
Des Moines, Ia.	5	11	1,334 average	900 to 1,000
Lawrence, Mass.	5	6	900 to 2,500	800 to 1,050
Concord, N. H.	1	6	2,250	600 to 825
Poughkeepsie, N. Y.	2	7	1,800 Pr., 500 teach.	500 to 700
Los Angeles, Cal.	11	15	100 per month	100 per month

We present below the replies to the last two questions, viz., Why do you employ more women than men? Why do you pay men more than women?

These replies are not arranged in the order of the cities mentioned above, as Superintendent Nightingale permits us to give a consensus of opinion only, without reference to the source in any case.

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(1) I do not know. (2)I do not know. NOTE—Two high school principals in this city, both men, one receives $2500, the other $2000. Excluding them for consideration now, the women receive, on the average, $56.44 a year less than the men, which is not a great difference.

They cost less. We cannot get them for the same.

Both the schools of which I have charge are girls' schools; also the services of women can be got for less money. I have personally nothing to do with fixing the salaries; but, as matter of opinion, I may say that the difference between men's pay and women's pay is not determined wholly—perhaps not even largely—by a corresponding difference in the value of their services.

Can get better women for same price. We believe that men and women should be about half-and-half. Are obliged to take a strong woman now and then because we cannot pay enough to get a strong man. NOTE—Women with us enter more heartily into their work. Rather than to take an inexperienced fellow just out of college, we prefer to engage a woman college graduate who has proven herself to be a decided teaching success. Personally I prefer men for heads of departments. My two strong teachers are, however, women. We pay them $1200 and $1500 respectively; they are fully as strong as the two men teachers who receive salaries of $2300 and $1900 respectively. These men are married and cannot afford to work for less, while on the other hand the women are single. Not that I think same salaries should not be paid to men and women for same work, but women are competing under different home circumstances and will accept less. We have no schedule of salaries, pay what is

necessary. Our salaries compare favorably with salaries paid in any city in the Union of the same size. Should you publish any report won't you please send it to me? I am very much interested in this matter.

Enclosed you will find the desired information as far as it is possible to give it. Our Board assumes all the responsibility in the selection of teachers, and it is sometimes difficult to explain the motives which determine a choice. Cannot answer. Cannot answer.

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(1) Sex not considered. (2) Sex not considered. P. S. In filling a vacancy sex is not considered, but our small salaries seem more of a temptation to good women than to good men. Hence the majority of our teachers are women. Since about two-fifths of our pupils are boys, I should favor increasing the salary of male teachers for the purely business reason that such action will attract the application of desirable male teachers.

In response to your letter the information is given below, so far as it is possible to give it. (1) I think women are employed here because they are content to work in almost any department for less money than men. (2) Two-thirds of all our pupils are girls and need as much influence from women as from men. (3) There is a spirit prevailing in our Board to the effect that certain kinds of disciplinary work are better when done by women. (4) Woman from time immemorial has, to a greater or less extent, been looked upon as inferior, dependent, weak. While in these later years she is gradually being emancipated; the chains of superstition are being broken, and hence she is beginning to be looked upon from the right point of view, and is every day in larger and larger numbers finding her way into not only the public schools but into almost all the avenues of life.

Why do we pay men more than women? The most important and responsible positions are filled by men. It is of quite

rare occurrence for a woman to be considered successful either as a city superintendent or a high school principal. (2) Wages is society's return to its members for services rendered. It is a matter of statistics that where a man is employed in school work he supports, on the average, four others, while in the case of a woman's employment in public schools there is rarely more than one to support beside herself. Men generally can command in other pursuits of life about as much as is paid them for school work, and would go into these kinds of employment if their pay were not in their judgment commensurate with their worth. A goodly number of other shadowy motives are hovering around, but I have already made you weary of reading those already given.

Because we wish the influence of good women, and because they can be obtained for less money. Because we wish the influence and ability of good men, and because we cannot get them without so doing.

Permit me to reply briefly to your note of November 6, which was received only Saturday. As to your question, why do we employ more women than men, I don't know that I can say that there is any policy controlling the matter. To a certain extent the question of supply determines the matter. It is easier to find more good women than good men in the profes sion; and especially with the small salaries paid to men here, it is impossible to find many men who will accept positions and keep them for any length of time. The good ones are very apt to be called elsewhere by higher salaries. The school has lost some of its best men in this way in the past.

As to your question, why do we pay men more than women, I can simply answer it by saying that in general we don't know. It seems to me that the only logical way of regulating this matter would be by the law of supply and demand, and to pay what is necessary for either good men or women to get the best person for the place. Good as the women are in our school work,

it is undoubtedly a source of weakness to the high schools that there is not a larger number of strong men engaged in them. This can only come when the pecuniary rewards for labor in the schools are sufficient to attract a superior order of men into the profession. This is certainly not true at present.

The appointments are made by the School Committee, and their reasons are unknown to me.

We can get better women teachers at salaries such as we can offer. Why do we pay men more than women? We do not, if we can get suitable teachers for the positions.

Why do we employ more women than men? Because they are needed. Why do we pay men more than women? Because it is the custom, and efficient women teachers can be secured at smaller salaries.

Have no settled policy. Sometimes the numbers are the same. I know of no reason except custom and the fact that women can be found who will do the work for the pittance paid them.

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(1) Must refer you to the Board. (2) Must refer you to the Board.

To save money. Because they cannot live on less than $1400, while women can. NOTE: The average male assistant is worth more to a high school than the average female assistant. Of course, there are notable exceptions in almost every school, but as a rule the difference in salary is no greater than the difference in effectiveness, reliability and evenness of work.

Why do we employ more women than men? On account of expense. Why do we pay men more than women? Custom.

Circular letter of November 6 received. The salaries are the same for men and women, and for regular teachers the sal-

aries are $100 per month without experience in high school teaching, $110 per month after one year's experience, $120 per month after two years' experience, $130 after three years' experience, $140 after four years' experience, which is also the maximum for assistants, $155 for heads of departments, $165 for vice-principal, $250 for principals. These salaries are on a basis of twelve months a year. Our state law provides that women teachers shall receive the same pay as men teachers for the same grade work. The reason for the slightly larger number of women teachers is due to the fact that in the Commercial High School there are several special teachers of penmanship, stenography, etc., who receive small salaries. We prefer a majority of men, as there is less friction between teacher and pupil, and less among teachers; and further because it is the only school in the city where men can get an even chance. In the Girls' High School the comparative number is just reversed, they preferring ladies on the whole.

Women are cheaper; our salaries are small as an average. Why do we pay men more than women? The market demands it. It is impossible to secure for $800 a trained and experienced woman teacher; for the same sum a green college graduate may be secured for training at the expense of the school. The woman will stay at her work for years—the man, as soon as he becomes of value to the school, must be promoted, or he will leave to go where higher salaries are paid. It is a simple question of supply and demand, governing the price of work for the two sexes.

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(1) Cheaper for the same talent. (2) We do not.

Two economic questions involving the law of demand and supply, and skilled labor.

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(1) Cheaper. (2) Have to. Few women apply for professorships.

The reasons for distinctions between male and female teachers are mainly historic, with us. The proportions of the sexes among teachers are nearly the same as with pupils, about one-third male in both cases. In some grades there is no distinction whatever between the salaries of men and women. Some women were appointed before college graduation was required, as is now the case with new appointees. To give all the reasons would require a long letter.

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(1) Cheaper. (2) Worth more.

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(1) They should be equal in number. "Supply Demands," etc. More applicants and willing to work for less.

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(1) They fill less responsible positions. (2) Their work is worth more. Were the work the same, we believe the pay should be the same.

In reply to your letter of inquiry of a recent date, will say that . . . . as yet supports but one high school. A uniform salary of —— per month is paid to all assistants, for as many months as the schools are in session during the year, which this year will be but nine months. I am first, last and always opposed to the method, as pursued here, in the adjustment of teachers' salaries. It places no value on experience and training. Half the teachers, at least, in any high school, in my judgment, ought to be men, but with . . . . present low salaries it is difficult to get first-class men to take places in our high school. Don't you think, as a class, men do more rugged teaching than women? They seem to give vigor to the work that hardly seems possible when the work is all done by women. What purpose have you in view in gathering these statistics? Do you publish a separate report of your high schools? If you do, I would like much to have a copy of it.

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(1) Because they are cheaper. (2) We pay market rates.

With equal qualifications women can be obtained at less salary. They do work that the women cannot do so well.

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(1) Do not. (2) Because in certain lines of work they are worth more.

We employ more men than women, because we need the man influence in the high school. The work of the ward schools is done entirely by women, and it is the opinion of the Board of Education and the superintendent that every pupil needs the influence of some good strong man during his education.

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(1) Remain with us longer. (2) We pay them the same.

We mean to make them both alike.

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(1) . . . . (2) Some have families. Are stronger as teachers in our high schools, consequently deserve more.

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(1) Cost less and answer the purpose in lower grades. (2) Because of the position in school which men occupy. Women could not render the service required of men, and as the demand for good men is greater than the supply, they can command a better salary than women.

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(1) Because we can get better work for the same money. (2) Because supply is much greater.

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(1) Because they will work for less pay; and because there are more good woman in the profession than there are good men, and a first rate woman is better than a second rate man. (2) Because it is the custom, principally. Our Board thinks that more usually a man has a family depending upon him. This is less often the case with women. Many women teach who "don't have to."

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(1) Cheaper. Fewer to be had. No distinction as to sex if the work required is done. Always wish to keep a good propor-

tion of male teachers, as they hold boys better. Male teachers begin as low as ——. Salaries are regularly raised with approved experience. Men can usually teach a wider range of subjects, or specialize more on certain lines which we want. Except my own salary as principal there is little difference.

Replying to your favor of the 6th inst. We have in this city but one high school, with an average attendance of about two hundred and twenty pupils. We strive to secure the services of the best teachers, paying the wages necessary to secure such service. We have employed male assistants, but prefer a first-class female to an average male teacher. The rate of compensation is not based upon sex, but fixed by custom. We hire as low as we can and advance their salaries annually if their work proves in every way satisfactory.

Why do we employ more women than men? More available. Why do we pay men more than women? Think we have to to secure them in their special work of manual training, business and science.

Why do we employ more women than men? Partly custom. Why do we pay men more than women? Partly because a man is more valuable in many respects.

Why do we employ more women than men? Intention is to have the number equal. Why do we pay men more than women? I don't know. You will have to consult the school-committee on that question.

Why do we employ more women than men? At home "our own" more available. Better choice for so small pay. Why do we pay men more than women? We do not except for principal and science teacher; for them pay must accompany requirements. P. S. Length of service in line of principal and science teachers duties is not accompanied with both ability and endurance on part of women. The best influence on boys and girls

requires both men and women, and men of same age and discretion and have a family are not looking to marriage as a female, and so cost more.

Why do we employ more women than men? Because we can get a better class of women for the same salary.

Why do we employ more women than men? We do not. Why do we pay men more than women? Only the three science men get more.

Why do we employ more women than men? Because their market price is lower. Why do we pay men more than women? As this question applies particularly to myself, I may be prejudiced in my reply. But as I fill the position of Head Master, and have received better educational advantages than any of my assistants and have also had more experience, I think that my salary ought to be very much higher than that of any other teacher whether man or woman. (1) Responsibilities. (2) Previous preparation and experience. (3) Supply and demand would seem to be some of the factors in making the difference to which you refer.

Why do we employ more women than men? Much less expensive for similar grade of work. Personally, I would prefer such women as I can secure for $1000 per annum to men who could not be secured less than $1500 to $2000. I have two such women at $700 and another at $600, and next week shall have a third such at $700.

Why do we employ more women than men? We do not, counting all. Because they can be employed for less money. I do not favor the paying of women less than men for the same service; but the whole question is more economic than sentimental or even ethical. It is largely a question of supply and demand. When a wider range of occupation is opened to women, the case will be somewhat different.

I cannot answer your last query on any other hypothesis than that of being in accord with a contemptible custom which made the Roman's wife "a little nearer than his horse, a little dearer than his dog." Our teachers receiving least pay, do the most work. How shall we break down this old custom "more honored in the breach than the observance," and inaugurate a more just scale of wages?

An assistant's salary gets a better woman than a man. That is not so true for the department salary.

We should pay our men more. Not doing so, when a man gets good for something (on the basis of experience) he goes from us and we have to "break in" another. We can get good, experienced women at from $800 to $1000 per annum, and are not so likely to lose them because our salaries for females are about as good as the average. A first-class man should get at least $1000. I don't know why women shouldn't, in equity, get as much, if they do the same work; yet such is the condition of the market.

I prefer to have about an even division of men and women. I think it is better for the boys and girls to come in contact with both. However, I would not desire to have a man (or a woman) just because he is a man, if he lacked the qualifications of a good teacher. I do not know any reason why a man should be paid more than a woman for doing the same work and for doing the work equally well. Do you? A teacher should be paid according to merit, it seems to me, and the salary should not be determined by sex. But those in authority do not always think that way. The best disciplinarians I have almost always found among the lady teachers. I do not mean that they have been the most rigid, but that they have shown greater power to influence the pupils for good. The best teachers of English we have ever had, have been women. The best teachers of mathematics have been men. Science teachers always seem to get the best salaries, but they are not always the best teachers by any means.

We have two high schools in this city, the ——— high school and the ——— high school. Why do we employ more women than men? Because the salary paid is not sufficient to attract the best men as instructors, while it does attract the best women; hence the schools of this city are almost entirely given over to women, for want of good men as applicants: We pay the same salaries to women as to men for the same work. This is the law of our state, and I think it is a good and just one. The only way that I can see to get more men in the profession is to pay better salaries, because the best men will not *deliberately* choose a profession where the salary is a bare living, with a pretty sure prospect of pauperism when their usefulness is ended.

I think the excess of women in our corps is a result of circumstances rather than of a definite plan on the part of the Board. As a rule by the time men have had experience enough to justify a proper salary they can do better elsewhere. All our women teachers have homes in . . . and are loath to leave them for better pay. As to the last question, why do we pay men more than women, you will see from answers already given that we do not pay the men more.

Why do we employ more women than men? Women, good teachers too, will work for less pay. Why do we pay men more than women? We do not.

THE ASSOCIATED ACADEMIC PRINCIPALS OF THE STATE OF NEW YORK.

THE eleventh holiday conference of the Associated Academic Principals of the State of New York was held at Syracuse, December 26 and 27 last. The leading teachers and school officers of the state were present, and the earnest spirit and ability with which the discussions were conducted made the meeting a notable one. As usual, the sessions were held in the High School building, but the headquarters of the Conference were at the Yales, and the opportunities for conversation and discussion offered by the gatherings in the hotel corridors were among the most pleasant and profitable features of the meeting.

Of all the subjects that engaged the attention of the conference the discussion of the Ainsworth Law was perhaps the most important. The question, "What modification of the 'Ainsworth Law' ought this Association to advocate?" was set down as one of the special topics for the opening session Thursday morning, but after a short discussion it was resolved to make the bill the principal topic at the Friday morning session, at which Mr. Ainsworth was expected to be present.

When the subject was resumed the following morning Principal Smith, of Lansingburgh, spoke in favor of the law. Following him, Principal Baker made the suggestion that that part of the law which required special text-books, one-fifth of whose space must be devoted to the subject of the effects of alcohol and narcotics, ought to be abolished and the State Superintendent of Public Instruction or the Board of Regents should formulate a syllabus for the schools to follow.

Another suggestion was made by Principal Allen, of Rochester, that the local authorities should be allowed to formulate their own syllabus.

In response to repeated calls, Mr. Ainsworth finally took the

floor and delivered a very able speech in support of the law. It was, however, a special plea, and the gentleman did not discuss the various criticisms that had been made against the bill from the teachers' point of view. Following Mr. Ainsworth brief remarks were made by Secretary Dewey, of the Board of Regents, and Superintendent Skinner, in which each speaker defined his own attitude toward the law.

Of the discussion that followed, it may be said in general that it was not held closely to the subject of the needed modification of the Ainsworth Law, and some confusion resulted from the disposition of the members, on the one hand, to resent the imputation that as a body they were disposed to disobey a law of the state, and their desire, on the other hand, not to put themselves on record as approving a law to some provisions of which they were, as teachers, opposed. The discussion was finally ended by the unanimous adoption of the following resolution:

Resolved, That this body of academic principals at their regular holiday conference desires to put itself on record as in hearty sympathy with the beneficent purposes of the Ainsworth Law, but is earnestly in favor of certain modifications in details which shall not interfere with the moral integrity of the law. The question "what modification of the 'Ainsworth Law' ought this association to advocate?" was referred to the consideration of the committee on legislation, which had been previously appointed.

The other notable feature of the meeting was the address of State Superintendent Charles R. Skinner, Thursday evening. The Association of Grammar School Principals was also in session at Syracuse, and in response to an invitation to address a joint meeting of the two bodies, Superintendent Skinner spoke on the True Aim of Education. The ideal which the speaker proposed was high, and while the teachers of the state were not unacquainted with the spirit that animates the head of the department, it was none the less gratifying to have this public assurance of the disposition of the superintendent to sacrifice all non-essentials in the desire to find common ground on which all could work together for a common end.

The session Thursday afternoon was chiefly occupied with the consideration of questions relating to the organization and work of Teachers' Training Classes. The discussion seemed to develop the fact that the compensation was insufficient to induce the local authorities, at least in the smaller communities, to maintain the Training Classes under present requirements, and it seemed to show also that in certain quarters where the demand for teachers was fully equal to the supply, the requirements for admission were too severe, and the time and work requirements too exacting.

An amendment was made to the constitution by which all ex-principals become eligible to membership, thus removing the restriction by which hitherto only those who had been in service five years or more were eligible. The association also appointed a committee on legislation, to consist of Principals Robinson, of Albany; Norris, of Canandaigua, and Allen, of Rochester. A committee, consisting of Principals Leonard, of Binghamton; Evans, of Elmira, and Lovell, of Niagara Falls, was appointed to urge upon the colleges of New York state the desirability of agreeing upon uniform requirements for admission to their several courses. The noon Friday conference adjourned after electing the following officers: President, John G. Allen, of Rochester; Vice-President, F. D. Boynton, of Ithaca; Treasurer, S. Dwight Arms, of Palmyra; Executive Committee, C. W. Evans, of Elmira; L. E. Rowley, of Lowville, and E. D. Merriman, of Malone.

F. H. HOWARD

COLGATE ACADEMY

BOOK REVIEWS

The Psychology of Number and its Applications to Methods of Teaching Arithmetic. By JAMES A. MCLELLAN and JOHN DEWEY. New York: D. Appleton & Co., 1895; pp. 309 + xiv. $1.50.

IT is very strange that, although arithmetic is taught more extensively than any other subject in the primary and secondary schools and so unacceptably at that, we see so little respectable literature upon the pedagogy of the subject. It is true that the educational journals devote any amount of space to articles upon the teaching of arithmetic, and that elementary text-books are numerous enough to satisfy all tastes, but the former are devoted almost exclusively to thrashing old straw, and the latter are only temporary in their influence. Indeed there has never yet appeared in English or in French a masterly work upon the subject by itself; Duhamel's great treatise on method contributes nothing as to the first steps, and the same may be said of the excellent *Méthodologie Mathématique* by Félix Dauge, of which the second edition is just out. In German the reverse is the case; indeed there has possibly been too much written in that language; at any rate it is to the "home of philosophy" that we have been compelled to go in this century for almost all of our pedagogy.

This work by Principal McLellan and Professor Dewey will therefore be cordially welcomed by all English-speaking teachers as a herald of progress in the pedagogy of arithmetic. It matters not so much whether one believes in the book, whether he considers its positions tenable, its matter new, or its discussions judicious; it is enough that it is written by strong men, by men with convictions, by teachers who claim a psychological warrant for their utterances, and by writers who make their readers think.

The book is a protest, and a vigorous one, against three patent and deep-rooted evils. The first is the English, or one might say the mediæval, notion of teaching numbers as symbols and of memorizing unnecessary rules and definitions. The second is our present degenerate form of Pestalozzianism, a system that was founded on the rational principle that objective teaching, perception, should be the foundation but should not constitute the entire structure of education in number. The influence of the great Swiss schoolmaster was not slow in reaching

this country, where it contributed much toward the elimination of mediævalism, and the introduction of rational method. But the system has lacked a sufficient number of strong supporters and it has degenerated by the influence of unscientific minds, until our American schools have only a haphazard way of teaching arithmetic that is universally admitted to be a failure. The third evil that the book combats is the evil of Grubeism, a craze that may be called a mere freak of American pedagogy. It seems odd that two American teachers should have happened on one of a large number of German Leitfaden, one that was not very prominent, nor very recent, nor very good, and by translating it inflict it on our schools as the best exponent of German pedagogy.

The work opens with a chapter on "What Psychology can do for the Teacher." Six chapters follow on "The Psychical Nature of Number" and kindred topics, after which the subject of "The Primary Teaching of Number" is introduced. Some eighty pages are devoted to primary arithmetic, the remaining seventy having to do with the work of the grammar school.

After emphasizing the value of psychology the authors proceed to seek the psychological origin of number, and find that "Number arises in the process of exact measurement of a given quantity with a view to instituting a balance, the need of this balance, or accurate adjustment of means to end being some limitation." This forms the basis of one feature of the method which they suggest. They divide the older methods into two groups, (1) the method of symbols, the mediæval inheritance, (2) "the method of things, of observing objects and taking vague percepts for definite numerical concepts which treats number as if it were an inherent property of things in themselves, simply waiting for the mind to grasp it to 'abstract' it from the things. . . . . Number is not (psychologically) got from things, it is put into them." The method suggested by the writers, and hence called "The Rational Method," is described as that "which develops numerical ideas in connection with the construction of some definite thing, bringing out clearly (*a*) the natural unity, the limit (the magnitude) to which all number refers; (*b*) the unit of measurement (the particular thing) which helps to construct the whole; and (*c*) the process of measuring, by which the second of these factors is used to make up or define the first, thus determining its numerical value." "The unit is never to be taught as a fixed thing (*e. g.*, as in the Grube method), but always as a unit of measurement."

It must be confessed that neither the authors' objection to the method of objects nor their two distinguishing features of "rational method" are new, which of course does not militate against their present value. Knilling, writing a dozen years ago, waged serious warfare against the "method of objects." "Keine Zahl wird aus der blossen Anschauung erkannt; kein Rechenergebnisz durch blosse Anschauung gefunden," etc. (*Zur Reform des Rechenunterrichtes* p. 23). The "fixed-unit" method was so seriously attacked by Pestalozzi that his $2 \times 3 + 3 \times 3 = (?) \times 3$ became a serious mannerism. The introduction to number through measurement, and the opposition to the fixed unit, is also ably championed by Knilling (p. 31, et pass.) and by other writers of the past decade.

In spite of the good that the work contains, its earnestness in combating mere formalism, its general mathematical accuracy (some inaccuracies of statement have crept in, as on p. 258), and its psychological basis, one lays it down with a slight feeling of disappointment. As the weeks elapse this feeling grows, and one queries, What does it lack?

It is difficult to answer this question. To be sure the work is often prolix; certain chapters lack in methodical arrangement; nor is it a book that is likely to be a guide to primary teachers, the very ones who most need its influence. Then too, the work entirely ignores the historic growth of number-method, a thing that we have no right to demand, to be sure, but a feature that would have been of utmost value to teachers. A few pages on the evolution of method, say from Busse at Dessau, through the great Swiss teacher, through Tillich and Stephani and Diesterweg, through Grube and his small following, down to Tanck and Knilling and the writers of our time—such a chapter would have been very valuable. Were this followed by a clear exposition of the excellencies and the defects of each, from the standpoint of psychology, the teacher would have a far better understanding of the subject than the book gives. Indeed, when one summarizes his criticisms they perhaps reduce to this: As compared with works like Knilling's or Hartmann's or Jänicke's, or Räther's, or Dittes', it is wanting in definite results that the primary teacher can use; and as one thinks of Sterner's *Geschichte der Rechenkunst*, or Unger's masterly work, *Die Methodik der praktischen Arithmetik*, the absence of the historic view is to be regretted.

DAVID EUGENE SMITH

MICHIGAN STATE NORMAL SCHOOL,
Ypsilanti

A Handbook of English Composition. By JAMES MORGAN HART, Professor of Rhetoric and English Philology in Cornell University. Philadelphia: Eldredge & Brother, 1895; pp. iv. + 360.

PROFESSOR HART entitles his book *A Handbook of English Composition*, a phrase which fails to indicate the scope of a work that includes chapters on the history of the English language, on the nature and types of poetry, and on meter. The author asserts that "he has consistently refrained from touching upon the theory of Rhetoric," a remark that the reader must take in a somewhat elastic sense: the method is far more analytical than that of several recent manuals that might be named. The book is nevertheless the outcome of long personal experience in the class room. Especially in the third part, which with two chapters on the paragraph is recommended by the author as a starting point for study, the volume abounds in shrewd practical suggestions. Almost every word of the chapter on preparing a composition is the very gospel of the art of teaching.

It has been the author's endeavor to make the book "available both for school and college." Whether any one volume ought to attempt so much is an open question. But there seems to be little room for doubt that in both the fields for which it is designed results of a high practical sort can be secured by the use of Professor Hart's manual. It seems equally clear that beginners ought to study the work in the order of presentation suggested in the preface; and that the chapter on argumentation, if used in the secondary school, will need simplification and explanation on the part of the instructor.

The main topics of the work are four: invention, expression, practical features of composition, and a group of miscellaneous subjects (meter, etc.). Invention comes first, and for this order, new in so ambitious a compendium, much is to be said. The paragraph is the first sub-topic. Then follows the theory of the types of composition: narration, description, exposition, and argument. The general subject of expression is approached through the qualities of style, clearness, force, propriety, and includes a chapter on figurative expression. Many teachers will regret that here the general principles of composition — as unity and coherence — are abandoned; whereas they were recognized in the chapters on the paragraph and on narration. The treatment of propriety is negative; for college men something more than prohibitions is

necessary; some positive treatment of the æsthetic qualities of style is desirable. What the author could here have given us may be inferred from his admirable section on euphony. To the third general division of the book—practical features—reference has already been made. It is in every way helpful. Its chapter on reading and composition has a suggestive discussion of the relation of theme writing to the study of masterpieces. To the fourth division, along with poetry and meter, are assigned oratory and debate, for no discoverable reason except that pulpit oratory of today is declared to belong rather to the epideictic type than to the argumentative.

Reverting to the first part, we find an excellent treatment of paragraph construction. For framing the outline the beginner has already received in part third directions that are beyond praise. Now the writer insists that the theme of each isolated paragraph should itself be the subject of analysis on the part of the student before he writes. One or two new terms of nomenclature appear. "Echo" is picturesque as applied to coherence between the closing idea of one sentence or section and the opening idea of the next. It is, however, hardly more descriptive of this coherence than of what Professor Hart elsewhere calls "Repeated Structure." "Paragraph Center" is distinctly applicable when no summary of a paragraph is possible but some "one object, one feature, one movement is made the center of interest."

In discussing the types of composition the author shows familiarity with recent works on this subject. Indeed from a reference (p. 114) to "Baker: *Argumentation*," one might forget that Professor Hart's book appeared before Professor G. P. Baker's *Principles of Argumentation*, in which the passage quoted does occur (p. 48). The reference is to Professor Baker's *Specimens of Argumentation: Modern*. Argumentation is surveyed by Professor Hart with an elaboration of theory which contrasts too sharply with the simpler, even empirical treatment of force, later on. His explanation of proofs and syllogistic methods is clear and good. The nomenclature in terms of inference from general to particular and *vice versa*, is helpful; but we unwillingly infer that the author would discard the terms sign and example, two terms which since the days of the Stagirite have lent their concreteness to the elucidation of a difficult matter. The important subject of the Issue, which is the paramount question in debate, is not mentioned. Its place is inadequately taken by a paragraph on the importance of defining terms. On page 111 a bright boy might find a slight flaw in the rea-

soning: "Every lightning rod is a verification of Franklin's deduction" (that "electricity and lightning are identical"). The phrase of Genung, Dynamic Description—massing details according to their power of producing a given general impression—is used by Hart to mean "turning the description into narration." The change is a good one, except that such changes are in themselves undesirable.

The difficulties of treating the general subject of expression under the head of three qualities of style have been referred to above. The case is made worse in the present work by the utter absence of a definition of force. Under this head we have a much needed warning against the abuse of conjunctions, especially *and;* but why under force rather than clearness? Here too is set unity of the sentence, a matter which affects intelligibility as much as the emotional quality of force. Under force is likewise included the theory of periodic and loose sentences.

Periodicity, by the way, is defined in terms not of syntax but of emphasis, a confusing innovation. The loose sentence is defined in practically the accepted way, as one which ends in a modifying clause. Unity in the sentence is explained in terms of grammar, whereas a sentence may be grammatically integral and logically heterogeneous. Later (p. 154) we get a second and better definition, but still vague: "By Unity is meant such an arrangement of the parts of the sentence that they form *one organized whole*, and make upon the mind *one homogeneous* impression."

The third part closes with chapters on propriety and figurative expression. On the first topic the author writes with wholesome good sense and full knowledge. He is far from being a purist, although curiously he objects to *engineer* for the driver of a locomotive. He finds no valid objection to the moderate use of the cleft infinitive. He avoids the metaphysics of *shall* and *will*; even the ethics of these words (in interrogative constructions) he leaves rather needlessly in the lurch. The terms barbarism and impropriety do not occur in the discussion. Coming to the subject of figures the author attempts no classification other than the time-honored formulas. Allegory is said to be "not a form of expression, but a form of literature," a remark which thus unqualified turns a useful distinction into a false one. The futile discrimination is made that it is not simile but real comparison to say of a person, He sings like a nightingale, "for both men and birds belong to the class of singing animals." The actual contribution of metaphor

to clearness seems unduly disparaged. Without radical metaphor — in the Müller sense — language would be impossible; and without the poetic metaphor of common life intelligibility would be out of the question. It may fairly be doubted whether "Metaphor in distinction from simile, is a figure of force, not directly of clearness."

Professor Hart has constantly tried to make his book "*interesting and stimulating.*" His choice of literary illustrations has done much to secure the desired end. A purely literary treatment would have added an element of interest not now present. The author's own style is terse and perfectly clear. If it rarely charms by grace or inevitable felicity it is never tedious, and it sets no models of eccentricity. Probably with deliberation Professor Hart uses the cleft infinitive (pp. 29, 251, 315, *et al.*). In this he goes beyond Dr. Hall himself, who preaches cleft infinitive but to the discomfiture of logic and the comfort of most readers does not practice it. Deliberate, too, is probably the use of *the above* as an adjective (p. 29 *et al.*), a concession to commercial English. It is not clear whether the author would defend his use of *quite long* (p. 37); of *replaced* in "replaced them with foreign words" (p. 27); of *actions* in "reveal his character in his *actions*" (p. 69); of *evidenced* (p. 99). There are a few trifling slips in coherence: (p. 116), "Were the present condition and the previous condition identical (which they never are)"; (p. 347) "There is a city of Trenton in N. Y. and N. J." On page 47, fourth line, the sense requires an *of* before *Gibbon's*. On page 97 we have the victim of Webster's eloquence called Goodridge, while he reappears on page 108 as Goodrich. Having jotted down these running comments, some of them perhaps hypercritical, let me confess having done scant justice to the practical side of the work. But then, the bookseller *soll nicht vorgegriffen werden.* Every teacher ought to own the book.

E. H. Lewis

History of the United States, for Schools. By John Fiske. Boston: Houghton, Mifflin & Co., 1894.

The author and publisher intended this work to present some advantages over other works of its class. In some respects they have succeeded. The work is larger than the average school text — about 500 pages — and is very abundantly supplied with maps, portraits, and views of historic objects, over 200 in all. After each chapter is found a list of "Topics and Questions" which are intended to serve as an

analysis of the subject-matter of the chapter. These are much superior to those, usually found at the bottom of each page, in some of the older books, which put a premium upon memorizing the text by framing the question in the language of the text, or by directing the pupil to "tell what the author has to say on the storming of Stony Point." In most cases the form of the sub-topic is no key to its answer. It is noticeable that these outlines of chapters have fewer questions in them as the work advances. This certainly reduces their value. Besides, it must be admitted that such outlines ready-made take from the pupil the value that comes from making his own outline. What valid reason can be given against leaving some of this work for the pupil to do, after examples have been furnished him? Following the topical outline are "Suggestive Questions and Directions." These questions are intended to be answered partly from the text and partly from other sources, and thus the pupil is carried beyond the narrow limits of one work. The questions here are embarrassing from their very abundance. The danger is that the pupil may have his thoughts scattered among a very large number of minute and unimportant details. This could be remedied partly if there were a few synthetic questions to lead the pupil to fuse the answers into one great answer; but the differentiating and analytic question predominates and the integrating and synthetic question is almost entirely absent. Either under this head or that of "Topics and Questions" there ought to be questions and directions setting problems before the pupil which he is to solve. Such directions might be like the following: "Find the meaning common to the leading events between 1761 and 1775," or "Compare and contrast the conduct of the colonists during the Stamp Act riots with their conduct during the Boston Tea Party and draw conclusions." Such directions ought to predominate, while indeed they are the exception. Again, after most of the chapters, we find "Topics for Collateral Reading," accompanied by reference, volume and page, to some prominent work — the author usually varying with each set of topics. The topics are interesting and are such in the main as to throw light upon the great questions discussed in the text, and thus do not take the pupil away from the main currents of history. Some exception is found in the case of citations from Parkman. When a problem is to be solved, interest can hardly be the basis for the selection of material. The author says the "references are purposely made to a very few books, such as any school may have in its library without great expense." Now

just because public school libraries in small places have few books, references should have been made to a large number of books! These helps include one more feature, a bibliography of leading authorities for each period and also a list of the leading novels, poems, and songs relating to American history. Few texts for public school work on history give as many valuable aids aside from the body of the work.

The construction of the historical portion proper has been well executed, and the few errors of fact are not more than the ordinary work contains. The distribution of material is satisfactory in most respects. The chapters upon the Indians, and the discovery of America have been placed under the head of "Introduction." This is correct as far as it goes, but under this same head should also be placed the explorations of the various nations. There is no real American history till those ideas and institutions are planted out of which American life has grown. Therefore Spanish, French, and English explorations are a mere "introduction" to American history, and even then deserve a place only as far as they touch this life either to hinder or to help it. What argument drawn from the fundamental nature of history, or from American history, can justify giving space to the Mound Builders and the Pueblo Indians? The discussion of these topics might have given way to a chapter on the physical environment of American institutions. The remaining matter is rightly distributed in three great periods instead of in a larger number of artificial divisions. This conforms to the natural divisions in the subject itself. The only adverse criticism here is one that may be made against most texts: the use of a terminology in naming the periods and sub-periods which gives no clew to the nature of the movement characterizing the period. It may be allowable to designate a period by calling it "The Revolution," but would it not be more suggestive and helpful to call it the "Growth of Union between the Colonies and their Separation from England?" Here our very terminology calls attention to the two fundamental movements of the period. A change in terminology is especally needed in designating the phases of periods. Instead of "Causes and Beginnings of the Revolution," why not "The Struggle for the rights of Englishmen," and thus reveal the common content of all the great events between 1761 and 1775? In other words we need a text-book that sets the problem of history in the thoughts and feelings of the people instead of in external events. We have a right to expect this from John Fiske.

W. H. MACE
SYRACUSE UNIVERSITY

Homer, Odyssey VI. By CHAS. W. BAIN. School Classics. Ginn & Co.

IN college requirements the Iliad has generally been specified; overworked or lazy teachers have found the three books over which they themselves toiled at school most convenient for their own teaching; and American school editions of Homer have reflected the situation and helped to make it permanent. Yet young people enjoy the wanderings of Odysseus more than the wrath of Achilles, and there is every reason why their taste should be considered. In the general liberalization going on in classical studies, it may be hoped that the colleges will cease to show a preference for the Iliad, that teachers will be dissatisfied to read always the same small portion of Homer, and that publishers will vie with each other to produce the most attractive editions of the Odyssey.

Mr. Bain's edition is attractive enough, but would receive a wider welcome if the amount of Homeric text included were not so scanty—331 lines. A beginner's class taking never more than twenty lines should finish the text in twenty recitations. In order to go on with the Phæacian episode (the natural thing to do) it would be necessary to buy one of the larger editions; and most teachers would think that better done at the outset, if at all. No doubt the book will be largely used for supplementary or sight reading by classes at work on other parts of Homer, but for this purpose, too, many teachers will prefer a much more generous text.

The notes are in general correct and judicious, and a special effort has been made to develop literary features of the poem. If the effort is sometimes too apparent, it must be remembered that it is very hard to make a boy see (if he doesn't see) that the poet has said a good thing, or said it artistically. In passing, a protest must be entered against the comment on line 141 (where Nausikaa faces Odysseus): "A beautiful instance of maidenly purity and innocence, which are exhibited by her fearlessness." This implies an unjust reflection upon the attendant maidens, who behaved just as pure and innocent maidens would naturally do at sight of the hideous stranger behind his bush. Nausikaa's stand exhibited not so much purity and innocence, as good sense, and the high spirit and self-control befitting the king's daughter.

Comparatively little is said about Homeric forms, and this is well. The only way to make the task of learning the new dialect interesting

is to lead the pupil to make out the main facts for himself from the text. There are few forms in this book which a boy who knows his Attic ought not to locate readily, after a little study of the context. It would have been well to mention somewhere that the meter is hexameter, or to bring the fact to notice by a question. The terms arsis and thesis are used in the later sense, though both the school grammars have returned to the original usage.

The English of the notes is not all that might be desired. *Which, it* and *this* are too often used without any apparent antecedent. *E. g.*, "The accent (of ἄπο) is due to the position of ἀπό after its noun, which is called 'Anastrophe.'"

The book contains a brief account of the Homeric question, concluding with a remark which will leave the youthful reader much as it finds him: "the tendency of modern investigation is in favor of a natural and organic development for both poems." The concordance-vocabulary and word-groups are excellent features, which the book shares with the rest of this series.

F. M. Bronson

Morgan Park Academy

The Philosophy of School Management. By Arnold Tompkins. Ginn & Co.

We had occasion to re-read not long ago Professor Tompkins' *Philosophy of Teaching*, in which we were strongly reminded anew of the fact that that work was far out of the ordinary run of treatises on theory and practice. The nucleus of the work now under discussion appeared as a chapter in the first edition of the *Philosophy of Teaching*. The idea of the book is stated in the first paragraph as follows: "The school is an organic process. It is this process which is to be managed, and for which there must be a fundamental law,—a law which gives unity to the diversity of functions in the manifold parts,—the Law of Unity." This idea is carried out in all of the details of school organization and management. The first sixty-seven pages of the work are quite philosophical, the remainder much more practical and direct. The book reveals on every page, wide experience, good judgment and careful thought. Every word is a protest against Philistinism in the school. We do not see how a teacher can fail, if he or she reads the book intelligently, to be stimulated and helped. The tendency of the book is to elevate school management

from a trade to a profession. The criticism which we would make on the author's first work, mentioned above, can, we think, be fairly made on this one. In style it is too philosophical and even involved. In comparison for instance with such a work as James' *Psychology*, which certainly treats of quite as complex a subject—the style is in the ratio of advanced algebra to primary arithmetic. We should think it might be found hard reading for the majority of those for whom it is intended. Practical questions are discussed sensibly, strongly, in a way that perhaps not all will agree to, but a book with which all would agree would be a book not worth the writing. Such a sentence as this should pass into an aphorism: "If a boy is not decently switched in school by a teacher, he may have to be indecently cudgeled by the police after expulsion from school." The discussion of the false sense of honor, so-called, which leads a pupil to screen his fellow deserves quoting in part: "Teachers claim that it is not right for a teacher to ask a pupil to report the bad conduct of another, and they must claim this on the ground that such a course violates the pupil's proper and strong attachment to his fellow-pupil, to serve the teacher's personal gain. The teacher has inculcated the thought that the school is his school, and the pupils properly think, 'Let him take care of it; we shall not help him to manage us." If the pupils feel that it is their school, and that the teacher is simply to help them to make it beautiful and good, the sentiment of honor would change from the feeling of honorable conduct towards a comrade as against a teacher, to that of honorable conduct towards the school which is for the good of all his comrades."

It is hardly necessary to say more to get an idea of the spirit and scope of the work. Every teacher will be the better for reading it.

C. H. T.

A Working Manual of American History, for Teachers and Students. By WILLIAM H. MACE. C. W. Bardeen, publisher, Syracuse.

THIS is a successful combination of the topical and laboratory methods of history teaching, and is designed, as the author states in his introduction, to enable the teacher to preserve the proper relations between historical events and the ideas underlying them, and to force the pupil to inquire deeply into the significance of events and perceive in them the movement of ideas and the growth of institutions.

In pursuance of this plan the book consists of two parts, the first of 108 pages, being a topical outline down to 1870, beginning with a study of the general causes opening up America to Europe. Of these pages about 70 are given to the period before 1789, and to the investigation of colonial New York and Pennsylvania, doubtless for local reasons, especial space is given. At the end of each group of topics is an excellent list of authorities, and these references have been made commendably definite for the student by the giving of the pages in each work named. When documentary evidence is to be had reference is made in this topical portion to the 170 pages of extracts from historical documents which comprise the second part of the manual. These extracts are well chosen, comprehensive and generous, and constitute an admirable feature of the book. To each document are appended four or five topics for study or writing which serve to suggest lines of inquiry, and thus help the pupil to solve for himself the historical problems presented to him. Two criticisms may be fairly made, one that the space and emphasis given to the period before 1789 are much too large, being considerably more than half of the book in both topics and documents, and thus disproportionate to its relative importance, and the other that the topics and documents are not brought down to a date later than 1870.

The manual will be of much value for advanced classes in the secondary schools and for college work. W. J. CHASE

MORGAN PARK ACADEMY

CORRECTION.

IN the January SCHOOL REVIEW, p. 27, the three lines beginning "Comment of the Examiner" are perfectly irrelevant. In making the abstract they should have been left out. Furthermore, certain omissions on p. 25 make the article reflect rather severely upon the superintendent, whereas the article as prepared could not be so construed. For the bad abstracting I am responsible. All the many merits of the article are Dr. Bulkley's; all the blunders mine. C. H. THURBER

NOTES

A *Syllabus of Geometry*, by G. A. Wentworth, has just been issued by Ginn & Co.

THE December number of the *Political Science Quarterly* closed the tenth volume of that important publication.

A SELECTION from Keats' Poems, edited by Arlo Bates, is announced in The Anthenæum Press Series (Ginn & Co.) to appear in February.

A NEW biography of George Washington, by Professor Woodrow Wilson, of Princeton, will be a feature of *Harper's Magazine* during 1896.

TEACHERS and students of United States History are finding a wealth of illustrative material of the most interesting sort on the new *Life of Lincoln* now running in McClure's.

THE January issues of the Riverside Literature Series, published by Houghton, Mifflin & Co., of Boston, New York, and Chicago, are (No. 89) Gulliver's Voyage to Lilliput, and (No. 90) Gulliver's Voyage to Brobdingnag.

THE late Dr. Jowett is reported to have once said to Mrs. Humphrey Ward: "We shall come in the future to teach almost entirely by biography. We shall begin with the life that is most familiar to us, 'The Life of Christ,' and we shall more and more put before our children the great examples of persons' lives so that they shall have from the beginning heroes and friends in their thoughts."

THE Committee on College Entrance Requirements appointed by the National Educational Association has organized by electing Supt. A. F. Nightingale, of the Chicago High School, chairman, and Principal W. H. Smiley, of the Denver High School, secretary. These gentlemen, with Professor Nicholas Murray Butler, constitute an Executive Committee, from which work may be expected.

Art Education (New York) has added to its editorial staff, Henry T. Bailey, State Director of Drawing, Mass. The magazine is now published in two editions, the "Method Edition" at 75 cents, devoted, as its name implies, to methods of teaching drawing and kindred arts, and the "Complete Edition" at $1.50, devoted to art education in its broadest sense. Teachers of art will undoubtedly find this magazine a most valuable aid.

A JOURNAL of interest to many teachers is *The International Journal of Ethics*, Philadelphia. The January number contained an especially interesting article on the Ethical Life and Conceptions of the Japanese, by Tokiwo Yokoi, of Tokyo, Japan. The discussion of Professor William James' article, "Is Life Worth Living," in the October number, is participated in by Thomas Davidson and Professor J. Arthur Thompson.

TEACHERS in schools where regular chapel services are conducted will be grateful to Dr. Henry VanDyke for a book of *Selections for Responsive Readings* (Ginn & Co.). Originally prepared for the chapel of the Harvard University, where it is now in use, the selections include not only the Psalms but prepared passages from all parts of the Bible. They omit the imprecatory Psalms, and each selection is complete in itself. The length of the selections also vary, some being quite brief. The book is well made for school use.

"THE officers of the National Educational Association commend this movement in the highest terms, and heartily favor giving the Educational Press Association due recognition and assistance. To this end the Executive Committee for 1895–6 have voted not to publish an Official Bulletin; but to rely upon the Educational Press for the publication of all advance information regarding programmes and plans for the annual meeting." Such is the comment on the Educational Press Association of America. It marks a step in advance for educational journalism.

THE *Arden Shakespeare* (D. C. Heath & Co.) is a new candidate for favor for school use in the study of the great poet. The plays are edited by Dr. C. H. Herford, of Trinity College, Cambridge. The notes are full and devoted largely to literary exposition. The paper is good; the print clear, and the binding attractive as well as serviceable. Of the many editions of Shakespeare now offered for class use this is certainly one of the best, deserving to be examined by all teachers before they make selection of their textbook. The price is reasonable. Six plays, Richard II., Julius Cæsar, Twelfth Night, Hamlet, As You Like It, and Macbeth have thus far come to our table.

MR. WILLIAM MORTON PAYNE has edited for Heath's Pedagogical Library the series of articles on English and American Universities, which appeared in *The Dial* of 1894, with two new articles on the Johns Hopkins University and the University of Michigan. The result is a neat reference book for all who are interested in the study of English — and who is not? Some twenty colleges and universities are represented. The space given to each is necessarily small and the treatment is from the hands of twenty or more different writers, so naturally there are a good many different plans. The introduction by Mr. Payne is an excellent survey and summary of the English agitation.

WE have received from Messrs. Houghton, Mifflin & Co. three new volumes in the *Riverside Literature Series*. They are *Tom Brown's School Days*, Dana's *Two Years Before the Mast*, and *Silas Marner*. These works are too well known to need any recommendation, but in their present form are very satisfactory specimens of cheap but attractive bookmaking. The tasteful linen covers make more evident the clear and handsome typography and should help materially to cultivate in the pupils who use these books that good taste in matters pertaining to bookmaking which is almost inseparable from a love of good literature itself. The price of the *Silas Marner* is 30 cents, of the other two 60 cents each.

WE cannot but regret that the Northern Central Association of Colleges and Preparatory Schools has not hit upon a happier plan of membership. Honorary membership is nothing better than a needless encumbrance to an organization for work. Individual membership and institutional membership are absolutely antagonistic ideas; there is no instance known to us of their working well together in the same organization. A membership solely by institutions, with some plan of proportional representation that allowed each institution to elect its own delegates would be simple, logical, sufficient. The plan adopted, a mixture, not a compound, of all known plans, is complex, illogical, but sure to be found a good deal more than sufficient. At least let honorary membership be abolished before it does any more damage.

PROFESSOR EARL BARNES, of the Department of Education, Stanford University, issues an announcement of a series of Studies in Education, to begin in August 1896. Ten numbers only will be issued. They will contain the results of a great deal of the work done by the department during the past five years. The following list of statistical studies will be presented:

Children's interests; children's superstitions; children's ambitions; children's sense of propriety; children's time-sense; intellectual habits of college students; rise of the social instinct; children's plays; children's inferences.

It is expected to make the price of the series one dollar. The announcement is one of great interest, for no university has yet undertaken such a series, and no one has a richer store of material than Stanford, Professor Barnes' work already having a high reputation throughout the educational world.

MANY people and a large section of country are indebted to Mr. William Morton Payne for his consistent advocacy of good things and the cause of righteousness in his editorial work on *The Dial*. His volume of *Little Leaders* (Way & Williams, $1.50) ought to have a constituency waiting for it. It is such a book as must appeal to everyone who can truly say with Lowell, "I am a book-man." Made up of articles that appeared originally as editorials in *The Dial*, there is yet a considerable thread of unity running through it all. The book falls into three easy divisions: Literature and

Criticism; Education, and In Memoriam. The first division belongs to the realm of the essayist; the second treats a subject as hackneyed as politics with much freshness and vigor; the third contains appreciative obituary notices of ten authors of first rank who have passed beyond the bar. The mechanical execution of the book is really perfect in its modesty and beauty.

AN *Advanced History of England*, by Cyril Ransome, has recently been issued by Macmillan & Co. ($2.25). This book covers the whole period from the earliest times to the present day, beginning with the pre-historic inhabitants of Great Britain and coming down to the Salisbury cabinet. All this within the space of about a thousand pages means, of course, condensation. The style is, however, excellent. An admirable index covering nearly thirty pages makes the book one of the best for ready reference. It would seem to be admirably adapted for teachers who are required to take a class through an outline history or short history of England, and yet at the same time want at hand a fuller treatment of facts. For those who follow something of a laboratory method in the teaching of history this would make an excellent reference book for the class. On these grounds we commend the book to the attention of schools. It has other merits which make it valuable for another constituency.

IN July 1893, on recommendation of some of the leading members of convocation, the regents of the University of the State of New York, appointed Prin. James E. Russell, then of New York, but now Professor of Pedagogy in the University of Colorado, a special commissioner to visit European educational institutions and report on whatever he might find of most importance to educational institutions in New York. He had no instructions as to the topic but was left to select it after making his investigations. The subject which he found most useful is that great movement known as university extension which has clearly taken a prominent place in modern education. His report treats this important matter so fairly, broadly and ably that it is deemed important to print it for the use of those in the state of New York, who in recent years have become deeply interested in extension work. In this form it will be a most convenient manual for those who wish to understand clearly this modern movement. The bulletin is mailed postpaid for 15 cents.

THE *Makers of Modern Rome*, by Mrs. Oliphant (Macmillan & Co, $3.00), is a book the mere mention of which will arouse pleasurable anticipations. With delightful frankness the author says in a ten-line preface: "Nobody will expect in this book, or from me, the results of original research or a settlement, if any settlement is ever possible, of vexed questions which have occupied the gravest students. A glance at the aspect of those questions which most clearly present themselves to a mind a little exercised in the

aspects of humanity, but not trained in the ways of learning, is all I attempt or desire." There are four books; Honorable Women, Not a Few; The Popes Who Made the Papacy; Lo Popolo and the Tribune of the People; The Popes who Made the City. There are. too, many illustrations by so good artists as Henry P. Leviere and Joseph Pennell. Attractive in every external way, and of pleasing style, the book hardly needs an introduction to be everywhere welcomed. It can hardly be doubted that this is especially a book for school libraries, even when they cannot have many books.

THOSE of our subscribers who have read THE SCHOOL REVIEW from the beginning will remember the admirable work done in launching the magazine by Dr. Frank Thilly, who was the first managing editor. Dr. Thilly was called, soon after THE SCHOOL REVIEW was started, to the University of Missouri as Professor of Philosophy. It is a pleasure to welcome to our table a splendid volume which is the first product of Professor Thilly's pen, the translation of Paulsen's *Introduction to Philosophy* (Henry Holt & Co.). Professor Paulsen is best known to Americans, perhaps, of all German philosophers. Professor Thilly is qualified as few men ever are for the task of translation, in that his knowledge of German and English are both of the rarest kind. He commands himself an admirable style in both languages and is perfectly at home in both. This enables him to make a translation of a difficult philosophical composition that reads as though it were indigenous to our soil. It is doubtless destined to serve as an introduction to the realm of philosophic speculation to many who otherwise would not enter at all, or would approach by a much more difficult and tiresome path.

VOLUME XXXI. and Volume XXXII. of the International Educational Series are both devoted to Froebel. Volume XXXI. is the *Mottoes and Commentaries of Frederich Froebel's Mother Play*. The mother communings (how much that lacks of the German Mutter Kose!) and mottoes are rendered into English verse by Henrietta Elliot, and the prose commentaries are translated, with an introduction treating of the philosophy of Froebel, by Susan E. Blow. The second volume is devoted to *The Songs and Music of the Mother Play*, arranged by Susan E. Blow. Both volumes are illustrated, the second one quite profusely, the illustrations being reproductions from the cuts of the Wichard Lange edition, now long out of print. It would be a great mistake to suppose that these are books of use only to teachers and in the Kindergarten. In no land under the sun is there a child who would fail to be delighted with the nursery scenes and stories of these volumes. The second volume in particular, if it were not put up in such a dignified way and included in a great series of educational works, ought to find its way to the Christmas counter of every toy department of the land. What a consummation if it could supplant much of the ruinous stuff now offered to childish minds! The translations are selected with great skill from many sources.

IT seems strange that it did not long ago occur to someone who was studying methods of education to go to the New Testament and examine the methods pursued by the Teacher who has certainly made by far the greatest impression of all teachers. And yet it is only yesterday that Professor Hinsdale has undertaken such a work, the results of which are published in the book, *Jesus as a Teacher, and the Making of the New Testament* (Christian Publishing Co., St. Louis). Professor Hinsdale tells of the genesis of the work in the preface, the origin being a series of articles in *The Christian Evangelist* which grew out of his own attention to the educational methods illustrated by some of the great teacher-artists of the world. The book is, as might be expected, suggestive, inspirational and full of vitalizing force, rather than a scientific treatise. Its interest and value are not only for teachers of week-day schools, but quite as much, and even more, for Sunday school teachers, and, perhaps most of all, for the innumerable multitude to whom all that relates to Jesus has a perennial and surpassing charm. The spirit of the book is in every way admirable.

THE first annual meeting of the Central Modern Language Conference was held in the Lecture Hall of the University of Chicago, on December 30 and the two days following. The increasing interest in modern languages in the West and Southwest seemed to make such a conference desirable. The success of this first meeting proved the correctness of that belief. There were present teachers and professors from most of the Western states, representing the Universities of Chicago, Michigan, Indiana, Wisconsin, Louisiana, the Northwestern University, Washington University, and many other institutions. A programme of twenty-three numbers, including papers on literary and linguistic topics in German, English, and French was listened to by an audience of from sixty to one one hundred and fifty persons, mostly specialists. Measures of importance with regard to the future of the organization were taken. Propositions for coöperation having been received from the American Modern Language Association, the conference determined to resolve itself into the "Central Division" of that association. This division will maintain its own organization, and meet at least twice in three years, with the expectation that the National Association will meet the third year at some point in the Central District, when there will be a joint session. Publication will be controlled by a joint committee from the two societies, and one membership fee gives to the members of the Central Division the right of membership in the Association. The latter organization has decided to meet at Cleveland next year. The officers of the Central Division for the ensuing year are: Professor W. H. Carruth, University of Kansas, President; Professor C. A. Smith, University of Louisiana, Professor E. T. Owen, University of Wisconsin, and Professor G. T. Hench, University of Michigan, Vice-Presidents; Professor H. Schmidt-Wartenberg, University of Chicago, Secretary.

At this writing it is still undecided whether the Chicago Board of Education will move back into the sixteenth century, or remain in the nineteenth. A good many different kinds of feelings have been excited by the proposal of the board to cut the salaries of the teachers in the high schools. It is pleasant to see that the teachers are not without friends, that there are some people, many people, left in Chicago who prefer that men and women shall be treated justly and honestly, even though they be teachers. The paltry sum to be saved by the cut made the cry of economy ring hollow in all ears. To carry out its ideas of the Reform Committee fully the board should pass the cut ordinance, and then revive the mediæval German law forbidding masters to teach in their shirt sleeves. This ordinance was necessary because the salaries were so low teachers could not afford to wear coats, and if left to their own devices, went without coats and bought bread. The remedy then was not more salary, but a law so burdensome that under it the celebrated poet and teacher, Hugo von Trimberg, wore the same coat thirty years. There would be joy on the part of some who are not angels if such a delightful state of affairs could be brought about in Chicago. What a pity it is that this imperial city is so poor that it must seriously propose to abandon the attempt to keep up with the advance guard. The patriotism of those who favor this scheme is like that of Eli Perkins' Uncle Consider, who so brimmed over with loyalty to the flag that he would leave the front of battle often and go miles to the rear just to rally round the flag awhile all by himself.

Later: The cut has failed. Chicago refuses to advance backwards. Our congratulations to the teachers.

CURRENT EDUCATIONAL LITERATURE

A School of Oratory. Bishop John H. Vincent. *The Chautauquan*, January 1896.

Criminal Crowding of Public Schools. James H. Penniman. *Forum*, January 1896.

The Schoolhouse as a Center. Horace E. Scudder. *Atlantic Monthly*, January 1896.

The Study of American English. Professor George M. Hempl. *The Chautauquan*, Jauuary 1896.

Studies of Childhood. XIV. The Child as Artist. By James Sully. *Popular Science Monthly*, January 1896.

The Study of Current History. By A. S. Johnson, Ph.D. *Ohio Educational Monthly*.

Not the least among the benefits of the study of current history is the

abundance of the illustrations it affords the teacher for impressing the truths of the text-book lessons — illustrations which at once excite and retain the attention of pupils. This is particularly noticeable in the teaching of geography and history. By connecting some interesting event of recent occurrence with the geographical features of each country, attention is at once aroused and memory strengthened. To take one example — from one well-conducted lesson on the recent festivities connected with the opening of the Baltic and North Sea canal, pupils can be taught more of what is useful for them to know about the geography of northern Germany and its adjacent waters, and the political relations of the countries of central Europe, than they could be expected to learn from a week's perusal of a formal text-book. And in the teaching of history, those important practical truths which are the chief value of the study, and which remain with us as the fruit of the experience of the past while the details of fact are lost in unavoidable oblivion — these truths receive their most graphic illustration, and make their strongest personal appeal to the springs of action within us, when they can be associated with familiar names, places and events of our own day. This ever-living interest in the present thus tends to develop within us a disposition to go beneath the mere external facts of history in search of the mightier tendencies of which those facts are but exponents, and aids us to grasp that conception of history which makes it a teacher of the present out of the wealth of the past.

FOREIGN NOTES.

THE BISHOP OF LONDON AND THE BOARD SCHOOLS. *The Journal of Education* [London], January 1896.

THE Bishop of London's attempt to prove his statement as to wasteful expenditure on the part of School Boards has drawn him into a curious statement. He says: "The voluntary schools are ceasing to be as good as the board schools, but that is not because the board schools are really the better, but because the voluntary schools are the worse." The rest of this letter from which we quote is equally obscure. But we gather that the bishop would reduce salaries under large boards in order to prevent the best teachers from being attracted to the towns. The *Pall Mall* seems to approve this view, in a very misleading article. We quote one sentence as an example of irresponsible journalistic flippancy. "By all means," says the *Pall Mall*, "let board-school teachers be paid adequate salaries, but not at the rate of cabinet ministers." This is, of course, a well-known figure in rhetoric. The salaries of the London Board range from £50 to £400. Cabinet ministers pocket from £2000 to £5000, and there is no article of the constitution which condemns plurality. The Bishop of London's official salary is £10,000. As Headmaster of Rugby he received about half that sum. We are not arguing

for the curtailment of the salaries either of bishops or of public-school headmasters, but, on the principle of not allowing the Gracchi to complain of sedition, we do say that a demand for economizing on the salaries of board-school masters comes with a bad grace from such a quarter.

STATE AID IN DENMARK. *The Journal of Education* [London], January 1896.

AT the evening meeting of the College of Preceptors in December, Mr. J. S. Thornton read a remarkable paper advocating state aid to all efficient schools, public and private alike, and demonstrating how smoothly and effectually this system worked in Denmark. Whether a system contrived for a small homogeneous and primitive country like Denmark could be applied to a highly complex and multifarious civilization like our own we are inclined to doubt, but it is a distinct omission on the part of the Royal Commissioners to have taken no notice of the one entirely satisfactory solution for adjusting the conflicting claims of public and private schools. At any rate, the Danish plan is infinitely preferable to that of the Irish intermediate Education Act, a general sweepstake that encourages competitive cramming of the worst description.

WOMEN STUDENTS AT THE ENGLISH UNIVERSITIES. *The Educational Times* [London], January 1896.

AS GENERALLY expected — despite promises to the contrary — the report on the admission of ladies to university degrees has not been published yet, though the commission sat with praiseworthy regularity, and all the leading educational ladies contributed their views. There is no doubt that women are now to be found entering for the different university examinations with much greater frequency than before. A few years ago those who competed confined their attention mainly to honor schools, more especially modern history, though there were candidates for *Literæ Humaniores* and even for Mathematics. Before the final examination they were content with the various examinations for women; nowadays, however, women are to be found in all the pass schools — Responsions (there were about ten candidates at the last examination), Pass Moderations, and the Pass Final Schools of various kinds, so that if a statute be passed admitting ladies to the degree there will be a fair number of persons already qualified.

ATTENDANCE AT THE RUSSIAN UNIVERSITIES. *The Journal of Education* [London], January 1896.

A PROJECT is on foot for fixing a maximum to the number of students allowed at each university. At Moscow the number has risen during the last thirty-five years from 1600 to 3500, and, if the rate of increase be maintained, the students will presently form an unwieldy, not to say dangerous, body. At

St. Petersburg the number is 3000, whilst the smaller provincial universities, such as Kasan, are comparatively deserted. It is pointed out that great hardship would be involved if poor students in districts where the local institution was full had to seek instruction in remote quarters; moreover, it would be injurious if professors of rare eminence were not able to attract unusually large audiences. At Odessa it has been proposed to found a special university for women. Noteworthy is the method by which the originator of the scheme suggests that the necessary funds might be raised. A tax of from one to two roubles could be imposed on every girl attending a high school; to the capital so procured voluntary contributions would be added. There is a possibility that the idea will be realized in the course of the next academic year.

FEMALE EDUCATION IN EGYPT. *The Journal of Education* [London], January 1896.

A MOVEMENT has been started in Egypt for improving the education of Egyptian girls. A small elementary government school will be opened shortly at Cairo, where Egyptian girls will have new and all too rare opportunities of obtaining a good education. It has been decided to place an English teacher at the head of the school, and the appointment has just been made. The successful candidate, Miss Alice Forbes, was educated partly in France, received her professional training at the Cambridge Teachers' College, and was for some years a successful teacher in an excellent girls' school at Port Elizabeth, South Africa. The connection which at present exists between England and Egypt should be an additional reason why English women and English teachers should watch with interest this movement to improve Egyptian women—a movement which is all the more significant because it is not started by foreigners, but by the government of the country. Self-reform is, after all, the only permanent reform, and Englishwomen will doubtless hope that this new venture will prove a great and permanent success.

MR. JOHN MORLEY ON THE SITUATION. *The Schoolmaster* [London], December 14, 1895.

SPEAKING at Newcastle, on Monday week, Mr. John Morley, referring to the education crisis, said, "The sky is thick with proposals. I have tried to look at them as candidly as I can, and with some considerable knowledge from old controversies years ago on the points at issue, and I say that if the government listens to these wild proposals the effect must be—I do not say it is the design of those who make them—the effect must be to lower the standard of the quality of education. Well now, you are going to strive in the direction of getting new markets. What is the good of striving to get new markets whilst, by starving education—which is what is wanted to do—by starving education you are unfitting your working classes for the competition in the markets that you have got? That is a point of view that I think is

well worthy the attention of statesmen. I hope that this country—that Liberals, at all events, in this country—will not allow themselves to be drawn off the right scent by any of the mystification of which the air is full as to certain sectarian questions. It is to me a singular and rather an odious thing to see those persons of high station—the Church of England, for instance—for whom the table of education has been so bountifully spread, so grudging to those whose social lot is less fortunate. So far as I can make out, the most important of these proposals and those most omnipresent to those most important people will undoubtedly have the effect of lowering the quality of education, and instead of having a noble and generous competition as to which class of schools shall give the best and highest education, you have proposals made which must tend to deprive those in which competition is most strenuous for good education of the advantage which they at present possess. The proposals are to postpone a great national interest—and there is no greater or higher national interest than the education of the people—to postpone that great national cause to mere sectarian considerations. Of course, this is a very perplexing and difficult problem. When I saw the Prime Minister said the other day that the remedy for a certain state of things was to multiply denominational schools in the rural districts, especially in this part of the island, what that meant was that ultimately schools where the education is particularly second rate and indifferent were to receive additional assistance from public sources. I hope you will resist any such proposals—such proposals as, for example, would put a limit upon the expenditure of school boards. I wish no ill to the voluntary schools; but who is it who sanctions the expenditure of a school board? It is yourselves; it is the ratepayers. You yourselves have it in your own hands. If you, knowing the educational wants of your locality, are of opinion that your school board is spending too much you can easily put it to rights at the time of the next election. I will say no more upon that question; but I do beg you to watch that, and I would even beg the conservatives, if they listen to anything from me—I beg them who care about education, and very many of them do—I beg them to keep a wachful eye upon any proceedings which may have this disastrous effect of lowering the quality of education and of lowering incidentally the position of the teacher."

NEW PUBLICATIONS

PEDAGOGY

Methods of Mind-Training, Concentrated Attention and Memory. By Catharine Aiken. Sixe 5 x 7½ in.; pp. 110. Harper & Brothers.

The Connection between Thought and Memory. A contribution to Pedagogical Psychology on the basis of F. W. Dörpfeld's Monograph "Denken und Gedächtnis. With an Introduction by G. Stanley Hall, LL.D., President of Clark University. By Herman T. Lukens, Ph.D. Docent in Clark University. Size 5 x 7¼ in.; pp. x.+ 169. Price 90 cents. D. C. Heath & Co.

Studies in the Science of Drawing in Art. By Aimée Osborne Moore. Size 5¾ x 8¼ in.; pp. x.+ 30. Ginn & Co.

Report of the Commissioner of Education for the Year 1892–3. Volume I. Containing Parts I. and II. Size 6 x 9¼ in.; pp. ix.+ 1224. Washington: Government Printing Office.

Extension Bulletin No. 12. October 1895. Report of Extension Department, 1894. Size 6¾ x 10 in.; pp. 68. Price 10 cents. Albany: University of the State of New York.

Encyklopädisches Handbuch der Pädagogik. Herausgegeben von W. Rein, Jena. Zweiter Band. Erziekender Unterieht — Falk und Falksches Institut in Weimar. Size 7 x 10½ in.; pp. 160. Langensalza: Verlag von Hermann Beyer & Söhne.

Encyklopädisches Handbuch der Pädagogik. Herausgegeben von W. Rein, Jena. Zweiter Band. Familienerziehung — Fortbildungsschule. Size 7 x 10½ in.; pp. 160. Langensalza: Verlag von Hermann Beyer & Söhne.

A Primer of the History of Mathematics. By W. W. Rouse Ball, Fellow and Tutor of Trinity College, Cambridge. Size 5 x 7 in.; pp. iv.+ 158. Price 65 cents. Mac millan & Co.

English in American Universities. By Professors in the English departments of twenty representative institutions. Edited, with an introduction, by William Morton Payne. Size 5 x 7¼ in.; pp. 182. Price $1.00. D. C. Heath & Co.

ENGLISH LANGUAGE AND LITERATURE

The Riverside Literature Series. Ivanhoe. A romance by Sir Walter Scott, Bart. with a biographical sketch and notes. Size 5 x 8 in.; pp. x.+ 519. Price 60 cents; Houghton, Mifflin & Co.

The Riverside Literature Series. Uncle Tom's Cabin; or Life among the Lowly By Harriet Beecher Stowe. With an introductory sketch of Mrs. Stowe's Life and Career. Size 5 x 8 in.; pp. xviii.+ 500. Price 60 cents. Houghton, Mifflin & Co.

Algebra for Schools and Colleges. By William Freeland, A.B., Head Master of the Harvard School, New York City. Size 5 x 7½ in.; pp. vi.+ 309. Longmans, Green & Co.

Fables and Essays. By John Bryan of Ohio. Vol. I. (complete in itself). Size 5½ x 7¾ in.; pp. ix.+244. New York: The Arts and Letters Co.

Heath's English Classics. As You Like It. Edited by J. C. Smith, M.A., Lecturer in Owens College, Victoria University, Classical Examiner to the University of Edinburgh. Size 4½ x 6½ in.; pp. 182. D. C. Heath & Co.

Heath's English Classics. The Tragedy of Macbeth. Edited by E. K. Chambers, B.A.; Sometime Scholar of Corpus Christi College, Oxford. Size 4½ x 6½ in.; pp 188. D. C. Heath & Co.

The Heart of Oak Books. Edited by Charles Eliot Norton. Size of each book 5 x 7½ in. D. C. Heath & Co. First book, Rhymes and Jingles, pp. 100. Second book, Fables and Nursery Tales; pp. 142. Third book, Fairy Stories and Classic Tales of Adventure; pp. 265. Fourth book, pp. 303. Fifth book, pp, 359.

Little Leaders. By William Morton Payne. Size 4½ x 7 in.; pp. x.+278. Price $1.50. Chicago: Way & Williams.

Nature in Verse. A poetry reader for children; compiled by Mary I. Lovejoy. Size 5 x 7½ in.; pp. xiv.+305. Silver, Burdett & Co.

Twilight Stories, by Elizabeth E. Foulke. Size 6 x 7¾ in.; pp. 99. Silver, Burdett & Co.

MODERN FOREIGN LANGUAGES AND LITERATURES

Träumereien an französischen Kaminen. Von Richard von Volkmann - Leander. Edited for school use by Amalie Hanstein, teacher of German in the Packer Institute, Brooklyn. Size 5 x 7¼ in.; pp. 163. American Book Co.

An der Majorsecke. Lustspiel in einem Aufzug. Nach seiner Novelle "Der älteste Hauptmann" bearbeitet. Von Ernst Wichert. Edited, with notes, by Charles Harris, Professor in Adelbert College of Western Reserve University, Cleveland, Ohio. Size 4½ x 6½ in.; pp. 41. Price 20 cents. Henry Holt & Co.

Heath's Modern Language Series. Die Hochzeitsreise. Von T. R. Benedix. Edited with notes by Natalie Schiefferdecker, Instructor in German, Abbot Academy, Andover, Mass. Size 5 x 7¼ in.; pp. 64. Price 25 cents. D. C. Heath & Co.

Studies in German Literature. Lessing. A brief account of his life and writings, with representative selections, including Nathan the Weise, with notes. By Euretta A. Hoyles, with an introduction by Wilhelm Bernhardt, Ph.D., Director of German Instruction in the high schools of Washington City. Size 5 x 7¼ in.; pp. x.+213. Silver, Burdett & Co.

Das Abenteuer der Neujahrsnacht und Der zerbrochene Krug. Von Heinrich Zschokke. Edited with notes by Albert B. Faust, Ph.D., Instructor in German, Johns Hopkins University. Size 4½ x 6½ in.; pp. ix.+110. Price 25 cents. Henry Holt & Co.

Herr Omnia, Von Heinrich Seidel. Edited for school use by J. Matthewman, Instructor in Modern Languages, Cheltenham Military Academy, Ogontz, Pa. Size 5 x 7⅛ in.; pp. 85. Price 25 cents. American Book Co.

Bilder aus der Deutschen Litteratur. Von T. Keller, Professor der deutschen Sprache und Litteratur am Normal College der Stadt New York. Size 5 x 7¼ in.; pp. 225. Price 75 cents. American Book Co.

A Handbook of German Literature. By Mary E. Phillips, L.L.A. Revised, with an introduction by A. Weiss, Ph.C., Professor of German at the Royal Military Academy, Woolwich. Size 5 x 7½ in.; pp. 157. Price $1. Macmillan & Co.

HISTORY

Old Testament History. For Junior Classes. By the Rev. T. H. Stokoe, D.D., late Head Master of King's College School, London. Part I. From the Creation to the Settlement in Palestine. With Maps. Size 4½ x 6¾ in.; pp. xii.+259. Price 60 cents. Macmillan & Co.

Names and their Histories, Alphabetically arranged as a Handbook of Historical Geography and Topographical Nomenclature. By Isaac Taylor, M.A., Litt.D., Canon of New York. Size 5 x 7½ in.: pp. v.+392. Price $2. Macmillan & Co.

Vol. II., No. 6. Translations and Reprints from the Original Sources of European History. The Period of Early Reformation in Germany. Edited by James Harvey Robinson, Ph.D., and Merrick Whitcomb, A.B. Size 5½ x 8½ in.; pp. 32. Price 20 cents. Published by the Department of History of the University of Pennsylvania, Philadelphia, Pa., 1895.

No. 7. Life of St. Columban. Edited by Dana Carleton Munro, A.M. Size 5½ x 8½ in.; pp. 36. Price 20 cents. Published by the Department of History of the University of Pennsylvania, Philadelphia, Pa., 1895.

SCIENCE AND MATHEMATICS

The Chemist's Compendium for Pharmacists, Chemists and Students. Compiled by C. J. S. Thompson. Size 3¾ x 6⅛ in.; pp. viii.+230. Price $1. Macmillan & Co

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